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(AN EXPERIMENTS THEATRE COMPLEX).

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ONOBA MATTHEW OSEBORE'GA.
B.SC(HONS) ARCH. ABU.

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DEPARTMENT OF ARCHITECTURE
FACULTY OF ENVIRONMENTAL DESIGN
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D E D I C A T I O N

Dedicated to the Triune Godhead

and

to my ever loving mother

Ruth Aiyewumi Mosugu.

I, Onoba Matthew Oseborega, do hereby solemnly declare that this dissertation is an authentic and original documentation of my research for the award of the 'Master of Science' degree of Ahmadu Bello University Zaria; and that all references therein have been duely acknowledged.

Signature: _____

Onoba Matthew Oseborega.

Approval:

_____ _____

Supervisor Head, Department of Architecture.

_____ _____

External Examiner Dean, Posgraduate School.

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ABSTRACT.

Twenty five centuries after the first theatre was built in Athens,patronage of the theatre as a live art is still very unecouraging low compared with its counterparts the television and the cinema which are more recent in innovations. Urbanization is leading us to a gradual drift from the live theatre to the cinema and television.

Concerted efforts are being made the world over the to improve the situation towards a better patronage of the live theatre. What then is the place of architecture in this crusade for the theatre as a live art?

The aim of this thesis is to examine the existing trends of theatre arts and to offer suggestions, architectural in nature, towards improving this rather unencouraging attitude towards the live theatre, particularly in Africa where theatre architecture is still at its formative years.

This accompanying write up is in three parts:

Part I: THEATRE GENERAL: Past, present and future.

Part II: Theatre Architecture: existing forms, basic requirements.

Part III: THE SCHEME; Objectives, limitations, conceptualisation and conclusions.

The festival complex, A.B.U. Zaria is proposed as a theatre laboratory to evolve and develop the much sought after Idiom of African theatre. It shall serve as an Information Bank to collect and disseminate information through the system of precept and example.

I N T R O D U C T I O N

Theatre is an Imitation of life. It embraces all of life including much of its chaos and controvercies. Theatre has been used in various communities for various purposes: As a religious rite, as a form for the e entertainment of the elite in the society, as a means of lively-hood, even as a panacea for all character and personality llls. It is only natural that anything so controversial and multi-faceted should be the object of so much controversy and misconception.

Life in absolute terms is a phenomenom that has been the subject of much study-the natural sciences. Much is known about it but complete and absolute analysis of it has eluded the knowledge of scientists for centurios. In fact, much that is supposedly known is still hypothetical and a subject of much controversy; the origin of life for instance. Theatre, it is said, is a "mirror image" of life itself and therefore has been, in all its facets a subject of much controversy.

According to Richard Leacroft, "Theatre archiecture depends on the element of fundamental relationship between the actor and his audience. It is in attempting to arrive at this correct relationship that we find ourselves on highly controversial grounds". Richarch L1(1955-56) 1.

Beginnings of Theatre Architecture dates back to Greece, a rugged hill country where the first theatre was built in Athens between 550 and 5[illegible] B.C.[2] with the introduction of drama and the actor it was inevitable that the whole nature of the theatre should undergo a change, in that the audience were no longer solely concerned with looking at the dances of a chorus but had now to divide their attention between them and an individual actor. Inevitably then, theatre architecture has been undergoing a cyclic form of evolution and there never seems to be a compromise position for the ideal form of the theatre.

In Africa, despite the heterogeneity of cultures, there are striking similarities in the theatre of the peoples of this great Continent. Theatre in Africa is not just an imitation of life, it is life itself. Despite this richness of theatre culture, little to nothing has been done as regards developing the theatre Architecture of Africa. The few theatre buildings that are found around are most usually a direct importation of the Controvercies and inconsistencies of Theatre Architecture of the outside world. Quoting from a travel note of the Nigerian re-knowned playwright, Professor Wole Soyinka:

> " There were strange theatrical sites in Kampala, two marvels essentially- a theatre (the structure), and a performance ... the building itself is an embodiment of the general misconception of the word 'theatre'. Theatre, and especially a 'National Theatre', is never the lump of wood and mortar which architects splash on the landscape..... what we found, was a doll's house, twin brother to our National museum, it was disconcerting to find a miniature replica of a British provincial Theatre fully closed in". Wole S. (1981) [3].

It is true that, ".... the rigour of African Theatre is not confined within buildings, but it is free and flexible. That African Theatre is functional in the sense that it serves a purpose within communities and cultures that is much greater than simply that of entertainment or diversion". - martin B. (1976) [4].

The Theatre Architecture of Africa then has to be unique to meet the unique roles of African Theatre.

This should therefore give the African Architect the greatest challenge of his career. That of finding a unique solution to the problem of evolving a truelly African Theatre Architecture bearing in mind the needs, cultures and peoples of Africa buttressed with a knowledge of advancements in Theatre Architecture outside Africa.

> " In an educational system based on local autonomy, Nigeria, Implementation of Programmes in theatre can occur only through the sytem of precept and example -theory and pilot programmes the results of which must be disseminated and followed up with advocacy and response. To ensure that there is made available to all students of all ages, then, there exists a need for a theory, data collection, and pilot programmes structure as the necessary first steps in Intrpducing theatre into local systems". - Bayo O. (1979) [5].

Experiment is a tool for evolution, evolution leads to change. "Any society goes through a change in its cul cultural experience. the phenomenom of chan,ge and its impact on architecture.as a physical translation of a society Cultural values and societal organisation is profound in the developing societies of Africa".
-- Adeyemi E.A. [6].

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PART I

THEATRE GENERAL

PAST, PRESENT, FUTURE.

CHAPTER I

WORLD THEATRE: HISTORICAL

Emergence of Theatre:

Drama is known to have stemmed out of life itself. Even the lower animals are occasionally seen imitating real life actions. The early man tried by the hunting mime to establish a pattern, that pattern he believed would repeat itself in actuality - sympathetical magic. This art of mimesis was the real basis of drama. This art developed itself while the size of the community grew and its social organisation became stringent and complex. As man changed from a hunting animal into a pastoralist and into a farmer, so his dramatic activities also changed. Now he does not mime the successful hunt, or retell the story of some demi-god's success in the field, so as to make that success his own, or to inspire emulation amongst the younger; instead , he sow, in mimesis at first, and later with developing pattern and ritual the sowing ing of the seed and the reaping of the harvest. Further ther, now that he is forced into a closer relation ship with the movement of the earth, the stars, and the sun, and feels anew his dependence on, his essential harmony (ideally) with, the life forces, his mind

reaches out again to the powers behind the life forces itself however conceived. Burton E.J. 1.

Eventually a pattern develops; first dramatic activity - mimesis, becomes ritual; next the ritual becomes liturgy (active approach of the society to the sources of its life and being); finally the liturgy becomes theatrical performances. Theatre rarely, if ever, moves completely from its basis in religion and ritual. That is why today, Africa is a continent of great potential theatrical activities.

h) The Paradoi which was an open entrance to the theatre gave way, during the Hellenistic period when the orchestra was encouraged upon by the stage buildings, to a monumental gateway.

ROMAN THEATRE

During the Roman era, the Greek Theatre, like its drama, was to be emulated by the Romans. It is therefore not surprising to find that many aspects of the Greek theatre featured prominently in the early days at Roman theatre development. There was no performance theatre in Rome until the first century B.C. The Romans built theatres in many places, often where no natural slope outside a hill top town helped construction. They faced the task of building an artificial hill of seats. Roman theatres, are all in all the most splendid architectural achievements that drama has produced.

FEATURES OF THE ROMAN THEATRE:

a) The idea of the Greek hillside was seldom used, they wanted their theatres as much as possible at the city centre; where a hillside site was inevitable, they were hollowed out and built up by means of concrete vaulting. Supporting tiers of seats under which were the connecting corridors used for retreat in case of sudden showers.

b) Earliest Roman theatres were built of wood but because of fire hazards, permanence, etc., stone, marble and more permanent materials were used in later theatres

c) Stage background played a greater prominence in Roman than Greek theatres. High wall at the back, shutting out anything beyond and sometimes a roof covering the stage portion. Certain amount of scenery was employed.

d) Stage curtain introduced. The curtain was lifted from below to close the stage and dropped to close it.

e) Within the rectangles formed by the columns or buttresses and the entablanture were the open aches leading in and so was developed one of the most characteristic Roman architectural features. The so-called Roman arcade that is a succession of arches with engaged columns or pilasters on the piers between them, carrying entablatures which run continuously over the arch tops.

f) The Amphitheatre, unknown to the Greeks, was designed for gladiatorial combats, fights between wild animals and battles between wild beasts and gladiators. Since such spectacles needed no background, it was logical to place the spectators all around. The oval amphitheatre with its rising tiers of seats may be regarded as a compound of two theatres, stage to stage, thus making an auditorium round an

elliptical arena. In addition to normal purposes, they were also used for naval exhibitions.

EARLY CHINESE THEATRE:

There exists a certain continuity and coherence in the historical development of the Chinese theatre because of their reverence for the past, for what we may call human achievement and heritage. In the late 5th century, A.D., highly stylised dance, dramatic in kind had become established in confucian centres.

Drama emerged from ritual observances as in Greece Music and ritual dance were combined with the telling of a story by the later 6th century A.D., and the wearing of masks was adopted about the time. The Chinese audience was tireless and critical , so the dramas were long.

The classical Theatre, based, as the Greek, on earlier temple performances, used a stage jutting forward into the audience, with two rear entrances, one to each side, and a canopy . Behind the stage van the green room crowded with props and equipment.

JAPANESE THEATRE

1. THE NO THEATRE

This form of theatre was closely associated with the feudal aristocracy which led to the shogmate rule of the 14th and 15th centurios. It is an art of caste' with an appeal to one part of the community.

The No stage is a raised platform. The audience sit on two sides of it. Over it is a temple roof. The pillars which support it have special significance On the right along the stage a small balcony is placed for the singers. At the back are accomodated four musicians and two stage assistants. Most important from the rear of the stage runs, backwards, at a passage way, narrower than the main stage, about fourty feet in length, which leads to a curtained entrance by which performers reach the main stage. There is no scenery in the accepted sense, but a light framework of wooden posts may support a roof to represent a temple or house , or even a palace. The main stage, eighteen feet square, is of highly polished cypress. The orchestra is simply a transverse flute, two hand-rums, and a larger drum struck with two sticks.

LATER EUROPEAN THEATRES

Except for the dark ages when there was decay of theatre due to a gradual loss of culture about the 9th and 10th century A.D., the theatre has continued to develop up to the present time.

In Germany, the theatre was simple. A stage was erected in a cleared space. By the mid 17th century there were three basic forms of theatrical performances.

a) The court drama- drawing on the revived classical theatre of Italy and the new machinery and scenic devices that had there developed.

b) A continuing native tradition of strolling companies, now to be regarded as professional entertainers.

c) The new church plays- theological dramas, consciously used by the Jesuits as an educational medium and instrument of the counter-Revolution.

IN FRANCE: Here we have a part of the Roman Empire that never entirely lost, its classical culture There was the new dance inspired by church liturgy. This new drama', because in an environment more corgenial to theatre, soon moved from the actual church building to outside performance. It's actual presentation, near to the church, possibly on the store platforms furnished by the church steps, has

analogies with the early shinto drama in the precints of the temple.

In Italy, a closer bond cements the traditions more than in any other country: the old with the new the classical with the modern theatre. Church theatre developed much as in other countries. Devotional praise, at first lyric, became narrative, and then involved impersonation. The Italian architects of the 1640's were less concerned with auditorium arrangement and more concerned with elevation and expansion of the use of the stage machinery.

THE ELIZABETHAN THEATRE

1) Circular in shape

2) Wooden framed buildings

3) 3) three-storey gallery(roofed) facing an un-roofed centre.

4) Open-pit contained a stage backed by a timing house with two large doors and a shallow gallery.

5) Polygonal exterior

6) Platform stage with balcony in the rear, second inner stage beneath balcony.

SHAKESPARIAN STAGE

The 20th century brought with it a fan-shaped auditorium, a steeply raked amplitheatre, electricity, the possibility of controlling lighting on the stage to

a degree never before achieved and a mechanised stage of great expense and complexity.

The arrival of 'Iron' brought about a revolution in theatre Architecture: strips of metals arranged in girders made it possible to extend galleries far out over the head of patrons in amplitheatre below; the larger auditorium spaces of the 18th century house were roofed with great trusses which rested on the outer walls and within the peaks, workshops were located in which to layout and paint scenic drops.

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CHAPTER II

AFRICAN THEATRE

Before the coming of the white man, Africans did not have "Theatres" in the Western or Oriental sense. Nobody in Africa built structures specially designated "playhouses" which served the purposes of entertainment or dramatic instruction and nothing else. Though there were areas for performances, they were not constructed in strict geometrical dimensions like those of the ancient Greeks. The basic question arises, "does a Negro-African Traditional Theatre infact exist? Has such a theatre ever existed?". To answer these question, a breakdown of what Theatre is will suffice.

The theatre is man's expression of his feelings emotions and experiences, it is a creation by man and such forms part of his culture. The subject matter of theatre is man. Considering that the theatre finds its subjects mainly in folklore, that is, in aggregate of myths, legends, stories, then we can say for sure that a Negro-African theatre has existed since the beginning of the African Civilization.

The earliest manifestations of the Negro-African theatre are in religions and comic ceremonies. The African Traditional forms of theatre finds its expressions in mythology, history and custom as exemplified by the various forms of festival dramas found in Africa.

African theatre is 'functional' in the sense that it serves a purpose within communities and cultures that is much greater than simply that of entertainment or diversion. The roots of African theatre in ritual, seasonal rythms, religion and communications are roots common to world theatre.

With the coming of independence, African countries have had to face the problems of a new ethos, that is, the creation of a new synthesis out of so many unlike entities. Today, there are a great many plays issuing from Africa and there is an enhanced awareness of the function of the theatre in the general reawakening of the continent. Most of pre-independence African Theatre was in the form of Traditional African festival drama. These festival dramas have survived up till date and are a strong part of the unalienated African. Today in an average African community of twenty thousand inhabitants, about ten to fifteen festivals may take place within the space of one year. These Traditional festivals are an indigenous cultural institution, a form of art nurturedon the African soil over the centuries and which has, therefore, developed distinctive features and whose techniques are sometimes totally different from the borrowed form now practised by many of our contemporary artists. A festival is an intergral, dynamic part of the culture of an unalienated African, an occasion to which he responds spontaneously. Traditional festivals are, therefore,

still very much alive today in many parts of the African continent and have an existence almost totally separate from the art forms of western inspiration. The festival is not just a religions occasion, if it were, it would hardly command more than a tiny fraction of the interest it generates among the people. The African festival is the Chief physical and metaphysical representative of African religion, the dominant impression is often found to be humanistic rather than religious.

Today, theatre in Africa is not limited to Traditional festival dramas alone. A lot has continued to be achieved in the area of literate drama. The contemporary African playwrights are making efforts geared towards evolving an African identity in the theatre. Theatre is being used in Africa as a means of education. Celebration, protest and discovery. Most of the plays are adapted from the myths and folklores of the society. It may be claimed, with some confidence, that theatre in Africa, today, is more alive, more positive, more functional, and more assertive than its counterpart in Europe or America. The contemporary Africa, theatreidraws upon traditions, beliefs, and needs that are not remote in time but which coexit alongside it. The richness in African Traditional Theatre stems from its roots in the many rituals which are a part and parcel of the African people. According

to Aristotle, drama is "the representation of an action, not the action itself nor a mere presentation of it". In ritual there is always, a role change; indeed, it is this role change which makes ritual possible, enabling the audience to cut out the individual and substitute the character. This is one of the features festival drama shares with developed literate drama. It can be argued that the future of African Theatre is going to evolve out of a blending of both forms- the traditional festival drama and the up and coming modern literate drama.

In conclusion, an extract from an article by Demas Nwoko," search for a New African Theatre", will help us understand the direction that this possible evolution of the contemporary African Theatre is likely to take:

> "In Nigeria, many spirited attempts have been made and are being made today, to evolve an African theatre idiom ..... though no formal philosophy has been formulated, we will agree that a truly African identity in art is imperative. It is also commonly held that this new art should not ape European art and should not be a mere copy of traditional African art. While the word "synthesis" is usually bandied about to resolve the bicultural situation in modern Africa, individual approach to the problem has differed and as will be expected results have been equally uneven".- Demas Nwoko.

"Today, the New African Society is detribalized, it is now nationalistic and will eventually become Pan-African as political unity is achieved. The artistic expression of one tribe cannot fulfil the aesthetic needs of this multi-tribal new society. There has to be a marriage of artistic habits and this is being accomplished naturally as the societies share the same religions, artistic works and plays"

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CHAPTER III

THEATRE IN NIGERIA.

Nigeria as a country holds a prominent position on the African Theatre scene. African Theatre development must be analysed and handled collectively and severally. In this situation, Nigeria as a microcosm of Africa will suffice. In fact theatre development in Nigeria will be a giant step forward for African and in fact world Theatre. The reasons are attributable to i) The large concentration of Africans in this one country, and ii) The remarkable folklore and traditions of the various ethnic groups. The Yoruba in particular, have obviously created a climate and a basis for dramatic activity. In fact, there is a richness and a variety in Nigerian Theatre that is not to be found elsewhere in the continent.

Traditional festival drama has always been a part of the various Nigerian cultural groups as much as it has been in all other African societies. A step further was reached when in 1945, Hubert Ogunde -a well known Nigerian dramatist lunched his African Music Researoh Party. However, the history of the Yoruba travelling Theatre dates further back. The first available accounts were recorded of the travelling theatre troupe that waited on the Alafin of Oyo in 1826. "The Alarinjo Theatre", emerged from the dramatic roots of the Egungun (Masquerade as ancestor worship and during the reign

of Alaafin Ogbolu in 1590. The gulf between the theatre and the cult that inspired it was widened by the rise of professionalism in the theatre. Professionalism not only resulted in proliferation of troupes but encouraged competition which, in turn, improved the theatrical art.

Performances were enacted in any of the following places, depending on who had commanded the performance: court performance(the palace quadrangle or inner courtyard, or the piazza in front of the palace); Alagbaa's performance (the Ode in front of the gabled frontage of his compound); lineage-heads, chiefs and other important persons (in the courtyard or the Ode in front of the gabled frontage of the compound.) No raised platform was necessary for any of these performances. An open space was all that was needed. A "circle" was usually formed by the spectators as they assembled round the open space(arena) To watch the show. No scenery was necessary except that, occasionally, the genius of a masqre-dramaturge manifested itself in the use of symbolic scenery. But generally, the objective in staging was not the simulation of a locality but the creation of an atmosphere.

Other aspect of Nigerian Traditional theatre include the dramatic ritual and the popular tradition. Dramatic rituals are usually, theoritical festivals with its roots in the celebrations of the various cults

or the worship of ancestral heroes. This form of drama is noted for its masquerade displays. The popular tradition is an art commonly liked in a widely growing urban culture, say, where all that a living, popular performer needs is not necessarily a text or an elaborate stage, but rather, a plce, a time, an audience and himself. Examples of such popular traditions include: the Among drama of the Ibibio, the Yoruba Alarinjo theatre, the Kwagh-hiv theatre, Bornu Puppet shows, the Hausa Comical art of Yankamanci, etc.

The second aspect of Nigerian Drama outside the Traditional Theatre is the literary drama. Such literary plays have been written since Ene Hanshaw's "This is over chance", (1956). This form of theatre is being used as a weapon of class struggle, as a forum for entertainment and for education. There is a close link between literary drama and traditional festival drama since most usually the themes are the same.

FEATURES OF NIGERIAN THEATRE

i) Nigerian drama presentations are always blended with a lot of music and dancing. The music to create an atmosphere and the dance to convey a message. Dance in the Nigerian context includes, mime, gymnastics acrobatics structured to, or orchestrated by music.

2) Literary drama has become an accepted part of our Universities and urban centres and it is presented

primarily, on the western format, for its entertainment- educational value.

3) the stage(the ground) on which festival acts are performed, tends to be conceived more in terms of a symbolic rather than a physical reality. It is not the precision of dimension (in terms of feet and inches or metres) that matters in construction of acting space in this drama, it is rather the association the place calls up in the mind of the people, the meta-physical reality of the staging area.

4) Actor and Environment:

a) the single actor, masked or otherwise, is a prominent feature of festival drama.

b) dialogue which may occur is not crucial to the drama and is hardly even more than a simple question and answer situation.

c) Festival drama is organised on an episode basis.

d) this kind of drama calls for a greater imaginative collaboration on the part of the audience than does western drama. Hence African audiences are participating audiences, since the drama relies heavily on creating the right atmosphere.

e) A festival drama is more visual than verbal.

f) masks and costumes play a prominent part in creating comedy.

g) In festival drama, masking denotes the supernatural, the spirit, and this is why it is a typically African form of artistic representation.

5) Most often, Nigerian cultural displays are about a central point, around which the audience stands. An example is the Ikaki festival thus: The presentation involves. three uni-axial planes of presentation. Central to the presentation is the core spirit-actors who are masked characters. These principal role-actors, five in number, IKAKI, the star, portrayed as the hero and the Villain. On the middle plain are the "prop actors" or "chorus". They are members of the Ekine society which sponsors and stages the drama. They are a fully integrated audience-actors who act as the psycho-dramatic link between the core spirit-actors and the community that patronizes the myth. On the peripheral plane of participation is the emphatic audience- - the community present, whose verbal interaction and other behavioural participation help to determine the super-structural elaborations of the scenario.

6) African theatre is fluid and free-ranging in form, ill-suited to physical limitations or sight lines" that determine a particular angle of projection. the barrier between audience and actors, assumed in much European Theatre Architecture, may be alien to the needs of much African Theatre.

7) Except for Hausa drama, incipient focal point of most forms of traditional drama in Nigeria is the masquerade.

8) The Nature of presentation and execution of these festivals poses a special problem since they vary a great deal from community to community. There are differences in number of actors, length of festival and extent of audience participation.

9) Festivals may be dramatic in themselves without being drama. The Fulani Soro dance, for instance, which is a manhood-endurance test, may be spectacular as an event in itself, but it is not drama, it is pure spectacle, a show.

NIGERIAN THEATRE: PROBLEMS AND PROSPECTS

i) The most recent problem facing the theatre, the world over, is that of poor patronage resulting from a drift to the other forms of art. An estimate for 1959 by Abel Green, showed that for a particular day in the U.S., approximately

6,000,000 people would attend motion picture theatres. More than 40,000,000 would listen to radio, more than 80,000,000 would view television, while a meagre 71,000 were billed to attend the legitimate professional theatre.

In Nigeria, this drift to motion picture theatres in preference to the legitimate live-theatre is unfortunate because the films being shown are corrupt and for the propagation of alien values. The problem however, is not that of the potential audiences, but unfortunately because the government, the architect, and the playwright have not created the right atmosphere to attract people to the live theatre. For instance, a record attendance was recorded at a performance of "Efunsetan Aniwura" at the liberty stadium, Ibadan when over 14,000 people watched a single performance. The performance was arranged by Radio- O-Y-O as part of the activities to mark the 3rd Anniversary of its establishment.

ii) Theatres are usually not available to a large segment of the people or where available are not accessible. For instance the charges for the National Theatre are so exhorbitant that the common man usually finds it difficult to afford.

iii) Government support to the theatre is not encouraging. There is no government subsidy for theatre as there is for sports. For instance, the National theatre which is owned by the Federal Government ran at a deficit of over ₦300,000 in 1982 because by law all money realised goes into the coffers of the Federal Government, thus leaving the centre without its own income except the two million naira subvention granted it yearly.

- The Guardian Sunday, Supplement,(March 1983).

iv) The three aspects of the Nigerian Theatre: University Theatre, state cultural centre theatre and Professional companies. Work too much in isolation of each other. For effective development of the Nigerian Theatre, all three must work together.

vi) Research and scholarship: of recent, there has been some effort in the area of research and scholarship into the history, practise, and aesthetics of theatre. There has to be an identification and a co-ordination of these research efforts.

PROPOSALS FOR ACTION:

Bayo Oduneye
Senior Arts Fellow
Department of Theatre Arts
University of Ibadan.

i) The burden of responsibility for developing theatre in Nigeria must rest squarely on people who make up theatre audience, shapers of public policy for the arts and all who have a direct or indirect influence on the support and continuation of theatre are involved; but ultimately, the impetus for action must come from those involved in theatre.

ii) Accessibility and Rules systems: To aid in the expanding of audience opportunities, there must be an investigation of the ways in which theatres rules and systems affect attitudes toward theatre and the accessibility of theatre to the public.

iii) Audience Profile: Modes and models in other research efforts (particularly in the behavioural sciences) should be used to chart the composition of theatre audiences and to identify their needs and desires. The result of the research efforts could chart new directions for the theatre of the future.

(iv) A national Theatre and a National Youth Theatre: Either of two plans should be investigated and implemented: The establishment of a National Theatre or the establishment of a mechanism that

that would unite existing theatres in a National institution. An important ingredient of the Plan should be the establishment of a National youth centre.

v) Pilot Project for Schools: In an educational system based on local autonomy, as in Nigeria, implementation of Programmes in theatre can occur only through the system of precept and example- theory nd pilot programmes the results of which must be disseminated and followed up with advocacy and response. To ensure that there is made available to all students of all ages, then, there exists a need for a theory, data collection, and pilot programme structure as the necessary first steps in introducing theatre into local school systems.

vi) Professional Residences: Commercial and non commercial/academic theatre must be brought closer together through such an obvious arrangement as exchange "artistes-in-residence" programme.

vii) Playwrights works in Progress: Opportunities must be created for playwrights to practise and develop their skills in "work-in-progress" settings on a widespread basis in University/non-commercial theatre.

viii) Financing Theatre: The Arts cost money as well as human talent, essential though they are to the quality of human life. The Authorities must be made to realise that theatre cannot be self sustaining.

ix) Information clearing Houses: Some form of National clearing house or institution should be established to collect and disseminate information about theatre Research.

x) Co-ordinating efforts at Implementation: A coordinated series of studies and Programmes involving commercial and University/non-commercial Theatre organisation should be established to identify and implement ways in which the variety of types of theatres in Nigeria can work with one another in developing standards in co-ordinating efforts and in moving to a unified front for the advocacy of Theatre in Nigeria at all levels.

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CHAPTER IV

TOWARDS AN ARCHITECTURAL SOLUTION

A full house at a concert provides an architectural experience as well as a musical experience. Space, form, and changing light create visual enjoyment. Full appreciation is a three-in-one action. When all three-physical, emotional and intellectual interact vigorously, the architectural experience promises to reach maximum enjoyment". William W.C.(1976)[1]

" Theatre makes its appeal on two levels: The aesthetics and the intellectual. Aesthetically through music, painting and dancing satisfying the emotional need of man, and his hunger for the beautiful. Intellectually because the greatest proportions of the greatest ideas ever conceived by man have been expressed in dramatic form."

- Frank M. Whiting.

There are many of us who find it difficult to appreciate poetry, painting and music, but most of us can appreciate the theatre which comes to us in a human form and is provided for us by human beings. The fact that the theatre is the most easily understandable art, and that it can give us a sense of human values and allow us to participate creatively in a performance is of the utmost importantance in this particular age in which we live. It is of particular importance to young people since its humanist nature can provide a

necessary balance to an overdose of technology".

- Hugh H. (1964).[2]

" We must build theatres where the audiences can move freely in the intervals, where they can feel a sense of their importance as human beings..... .....young audiences want to discover the theatre for themselves and they want to discover it as something different from the theatre of past generations. They want old truths in new forms"

- Hugh H. (1964)

The architect is not involved in theatre beyond the theatre building-which we know is essentially a physical equipment for the gratification of the playing urge. The architects problem arises because demand varies as do the material equipment, level of available technology, economic aspects, modes, manners, customs, and spiritual concepts of human living. In taking a prescription for the ailing live theatre, the theatre house, must endeavour to create the right atmosphere for the playwright, actor and audience, Theatre is essentially a means for human expression and because this varies from community to community and person to person, whatever structure the architect provides for this live art must take into consideration this varying degrees of human self-expression. Spaces must be unlimited by rigid measurements of length and form.

The individual patron must be allowed ample space for movement, the playwright must not be streamlined or limited by the rigidity of theatre forms, and the actor must be allowed room to create the right atmosphere to aid his actions.

In seeking to encourage a better patronage of the live theatre, means must be found to introduce a greater proportion of the youth to the theatre. The youth are captivated by fast moving environments- of course that is the age in which they have found themselves. To improve the popularity of theatre amongst young people, a forum should be found for an integration of television and cinema into the live theatre. For instance projected actions can be used as background to plays to replace the orthodox scenery and painted backcloth which are never able to fool the audiences anyway.

The emerging theatre architecture of the world, should seek to provide lively atmospheres and theatre spaces that are in no way committed. Essentially therefore, a theatre building must be an embodiment of an amusement park, a cinema house, and a play house.

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PART 2

THEATRE ARCHITECTURE.

.EXISTING TRENDS AND STANDARDS.

. CASE STUDIES

. THEATRE ACOUSTICS.

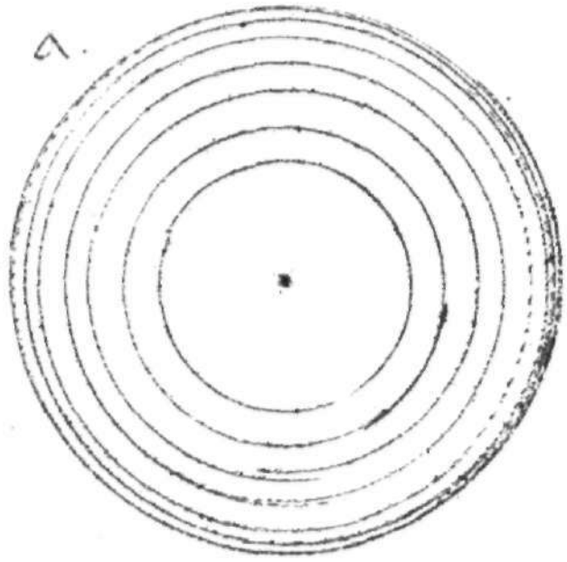
CHAPTER V

SHAPES AND FORMS OF THEATRES.

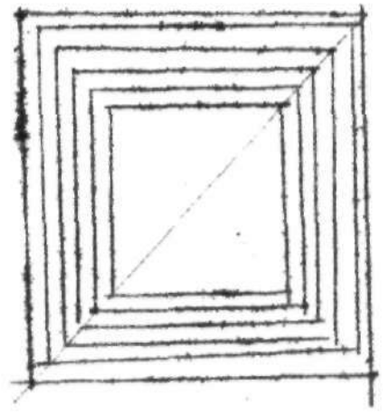
2nA.

1, 360° ENCIRCLEMENT.

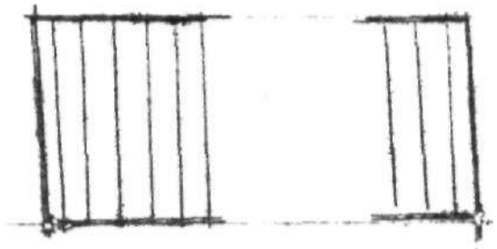
a.



b.



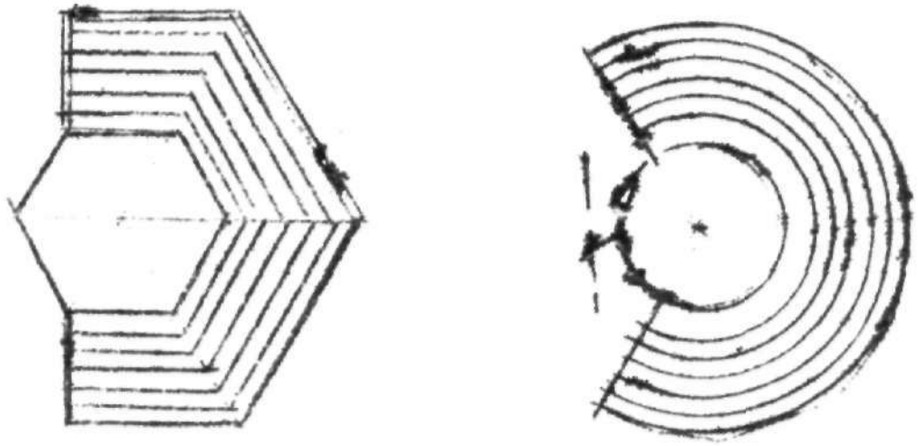
c.



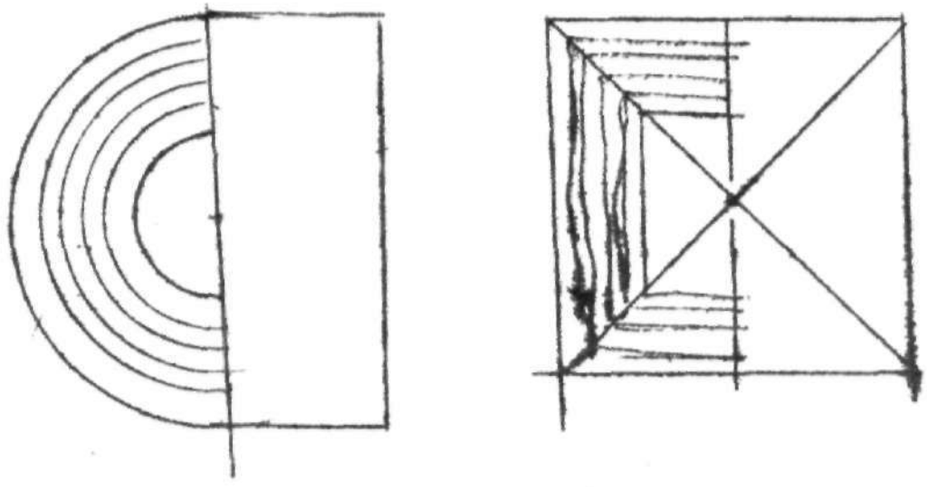
(a,b)

The Acting Area is surrounded on all sides by the audience. This form is also called Theatre-In-the-Round, Arena or central stage. Entrance is made through the audience or from under the stage. No scenic background to the acting area and no problem of horizontal sight lines.

5b 210°-220° ENCIRCLEMENT



5c. 180° ENCIRCLEMENT.



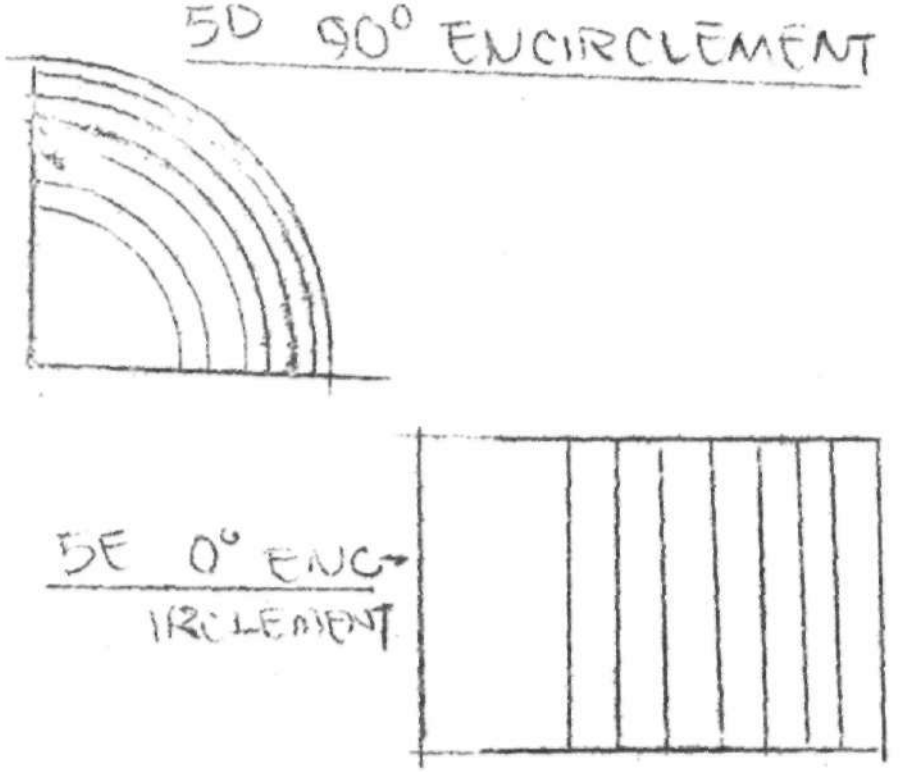
5c. A variation of the form called the Transverse stage where most of the audience sit on opposite sides and face one another across the stage.

5B: 210-220° ENCIRCLEMENT

The classical Greek and Hellenistic Theatres were of this type. Entrances to the acting area can be made from a vertical wall or platform on the open side, but the principal acting area is at the focus of the seating. The essential feature of the original Greek Theatre was that it was always in the open-air.

5C 180° ENCIRCLEMENT

Roman Theatre was of this form and first Rennaissance Theatres coppied the form. The emphasis has moved towards the back wall which now forms the boundary of the acting area . Extreme sight lines exclude any action behind the Backwall. More recent versions are usually called 'THRUST STAGES', though the terms 'PENINSULAR' OR 'THREE-SIDED' STAGE are sometimes used. Elizabethan Public Theatres are believed to be in this form.



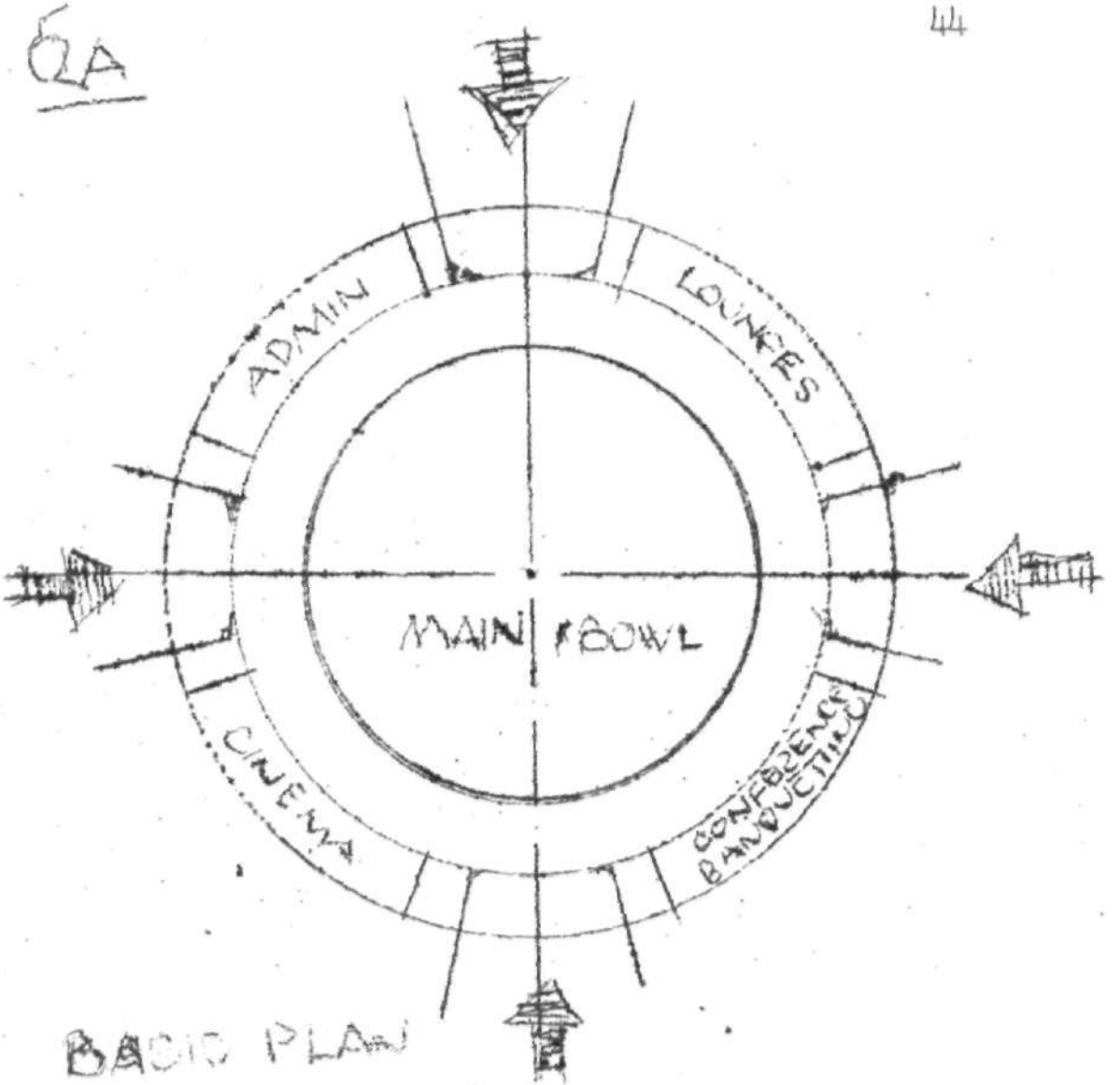
5D. 90° ENCIRCLEMENT

This wide fan' arrangement allows most of the action to be seen against stage walls or a scenic background rather than against members of the audience it allows an extensive use of scenery but limited by extreme sight lines.

5E. 0° ENCIRCLEMENT

Usually called the 'End Stage' Acting area and the audience are within the same space. It is basically a Prosenium Theatre without a Proscenium Arch and without the working areas needed to deploy scenery.

6A



BASIC PLAN
OF THE NATIONAL
THEATRE, LAGOS.

(6a) THE NATIONAL THEATRE, IGANMU LAGOS.

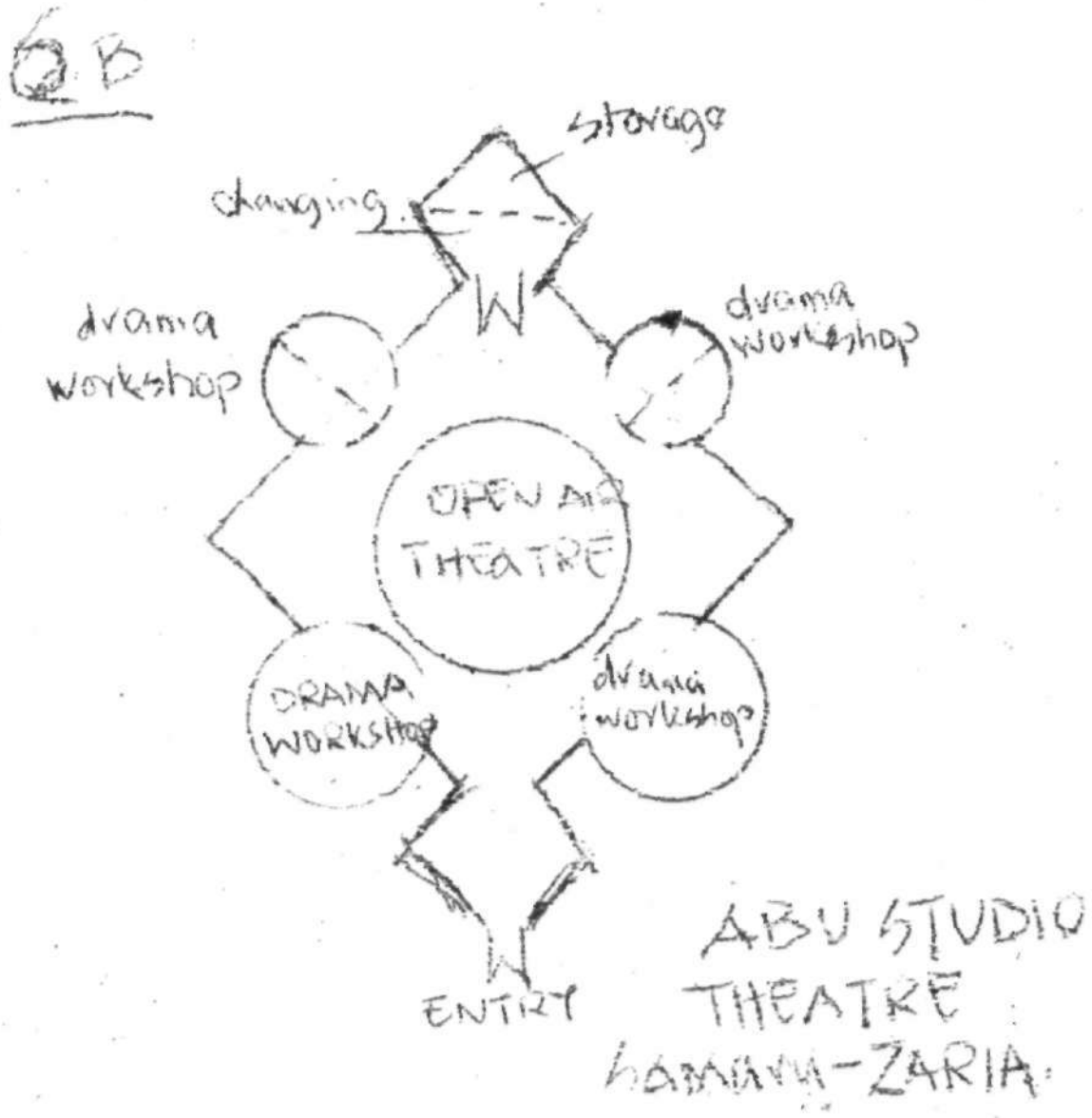
The National Arts Theatre, Iganmu Lagos was built at the cost of ₦67 million. It covers an area of 23,000 square metres and stands well new 31 metres in height. It has six halls of which the main hall is the Opicentre. It has a sitting capacity of 5,000 people and consists of stage and an auditorium. It is adaptable to serve as a proscenium theatre and as a theatre-in-the

round. The Theatre was first used for the 2nd world Black and African Festival of Arts and Culture in 1977.

While only 5 foreign and 8 indigenously produced plays were staged at the theatre in 1982, 56 films were screened at the same venue within the same period. Unfortunately still, only three of them are Nigerian films, This shows the furnny trend of the governments policy on theatre Arts in this nation. More emphasis is placed in Western values than African values. It is most interesting too to note that After FESTAC'77 the theatre was billed, by the Federal Government, to become a national centre for promotion of arts and cultures; A centre, which can radiate and provoke interest nation-wide in various forms of cultural activities.

Secondly, the box-Office returns on films are higher. As shown in the theatres 1982 annual report, ₦345,000 was realised as gross intake on films, while a paltry amount of ₦185,000 was made on the 13 plays within the same year. In 1982, the theatre ran at a deficit of ₦300,000 probably because all gate takings, by rule goes to the cuffers of the Federal Government who gives the theatre a mere ₦2 million subvention yearly. Same year, 1982, the management grossed ₦400,000 from firms and promoters who rented its facilities for commercial

purposes. ₦70,000 was realised in two days sometime in 1983 during a pop concert by Lakeside. Exhorbitant fees are charged for promotions. One begins to wonder then if the National Theatre was actually built for the upper class alone when it is supposed to lead a Cultural Revivalist Campaign from the grass-roots.



6b. ABU STUDIO THEATRE, SAMARU-ZARIA

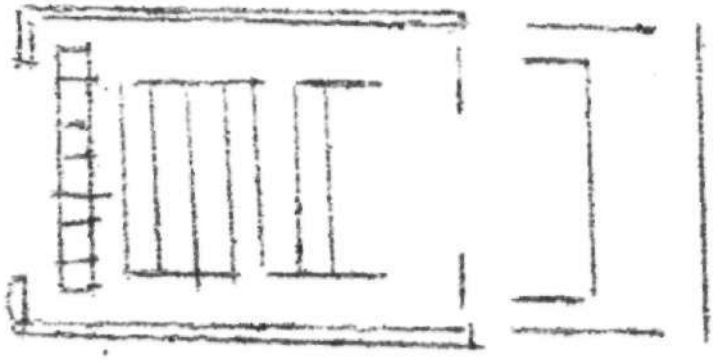
The Theatre is very flexible, avoiding any specific style of stage. The theatre was designed with the aim of making the structure inexpensive and non-permanent. Based on the traditional Hausa culture of the locality, the theatre was of mud and thatch construction.

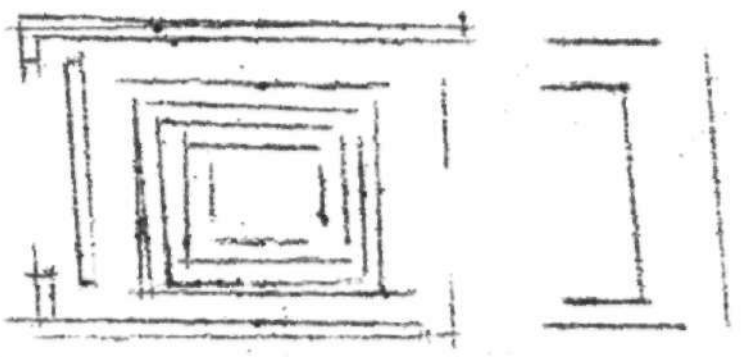
The walled compound area lends some privacy to the theatre. The roofed drama workshops, in combination with the compound wall form an open air Theatre at the centre. The worshop spaces are made to function as part of the open air theatre by having large openings. Concrete was used for the multi-level floor to withstand heavy use and permit proper drainage. Behind the theatre, within the same complex, is a workshop for set and costome design. A traditional Hause square mud-doored room", "Sorho", was used as the entrance pavillion.

Most unfortunately, the theatre has not been adequately maintained. The mid roof of the storage sorho has been removed and replaced with aluminium zinc not breaking the traditional nature of the theatre.

Two of the workshops are 7.5 m in diameter and the smaller two, 5.0m diameter. The mud compound wall is about 20.0m from corner to corner diagramally.

6c





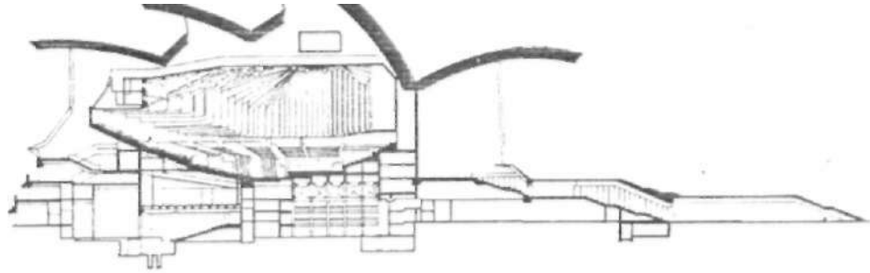
THE COTTESLOE THEATRE
NATIONAL THEATRE, LONDON.

6c: THE COTTESLOE THEATRE, NATIONAL THEATRE LONDON

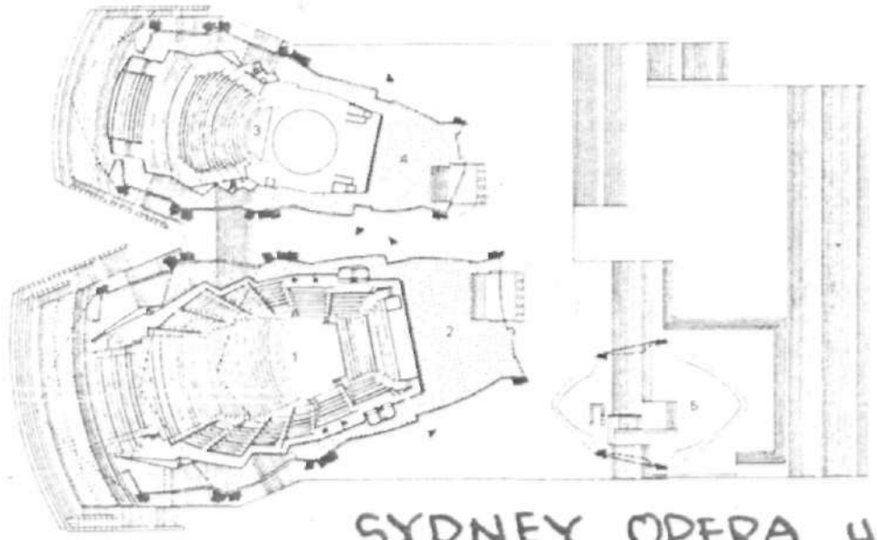
The cottesloe theatre, is the third of the theatres of the National theatre, London. It is a studio theatre space, created for experimentation. The gallery system at the walls are movable. Each spot on the theatre inside

can be roached for lighting purposes via a system of gangways. The sitting arrangement can be altered to give either an end stage or a theatre-in-the-round formation. The theatre can accomodate 400 people. Sitting on 3 gallery levels on 3 sides of the space and the stage is in normal configuration on the 4th side with or without a proscenium . A moving wall is on the 4th side which is movable and so can adjust the shape of the room in both height and width. The main part of the stage incorporates an olevator which enables its level and rate to be adjusted. A group of smaller elevation in the forestage area can be lowered to form an orchestra pit or can be used in conjunction with the mains elevator. Full-sized rear and side stages, separated from the main stage by sound proof doors, are equipped with motorised wagons to move scenery.

THE ARCHITECT'S JOURNAL.
12TH JANUARY, 1977.

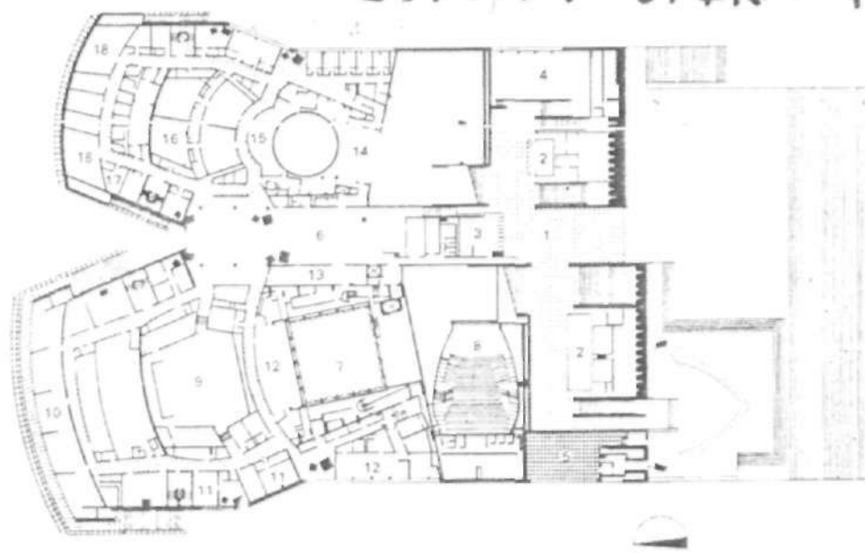


Przekrój przez salę koncertową

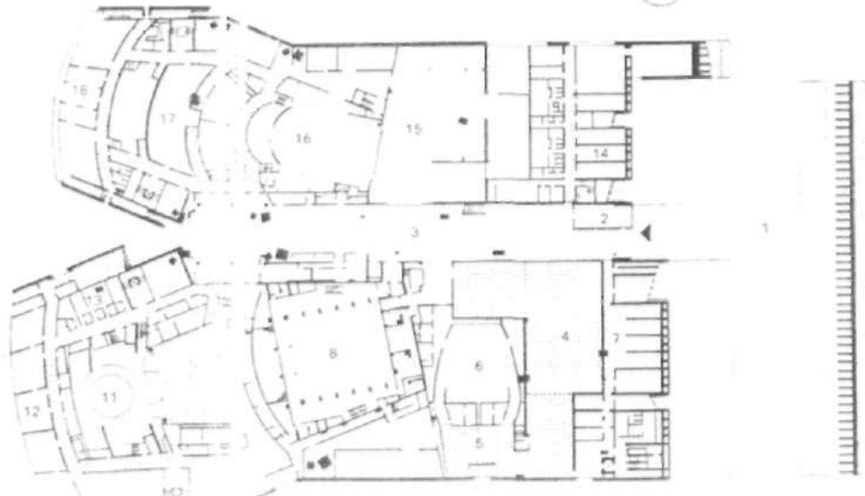


Rzut 3 piętra
1 – sala koncertowa
2 – foyer sali koncertowej
3 – sala operowa
4 – foyer sali operowej
5 – restauracja

SYDNEY OPERA HOUSE.



Rzut 1 piętra
1 – foyer
2 – szatnie
3 – kasy
4 – recepcja
5 – kuchnia
6 – klub artystów
7 – próżnia sali prób
8 – sala kameralna
9 – sala prób
10 – pomieszczenia administracji
11 – pokoje dyrygentów
12 – garderoby orkiestry i pom. na strumenty
13 – biblioteka muzyczna
14 – podscenie
15 – fosa orkiestry
16 – garderoby chóru i orkiestry
17 – garderoby
18 – sale prób

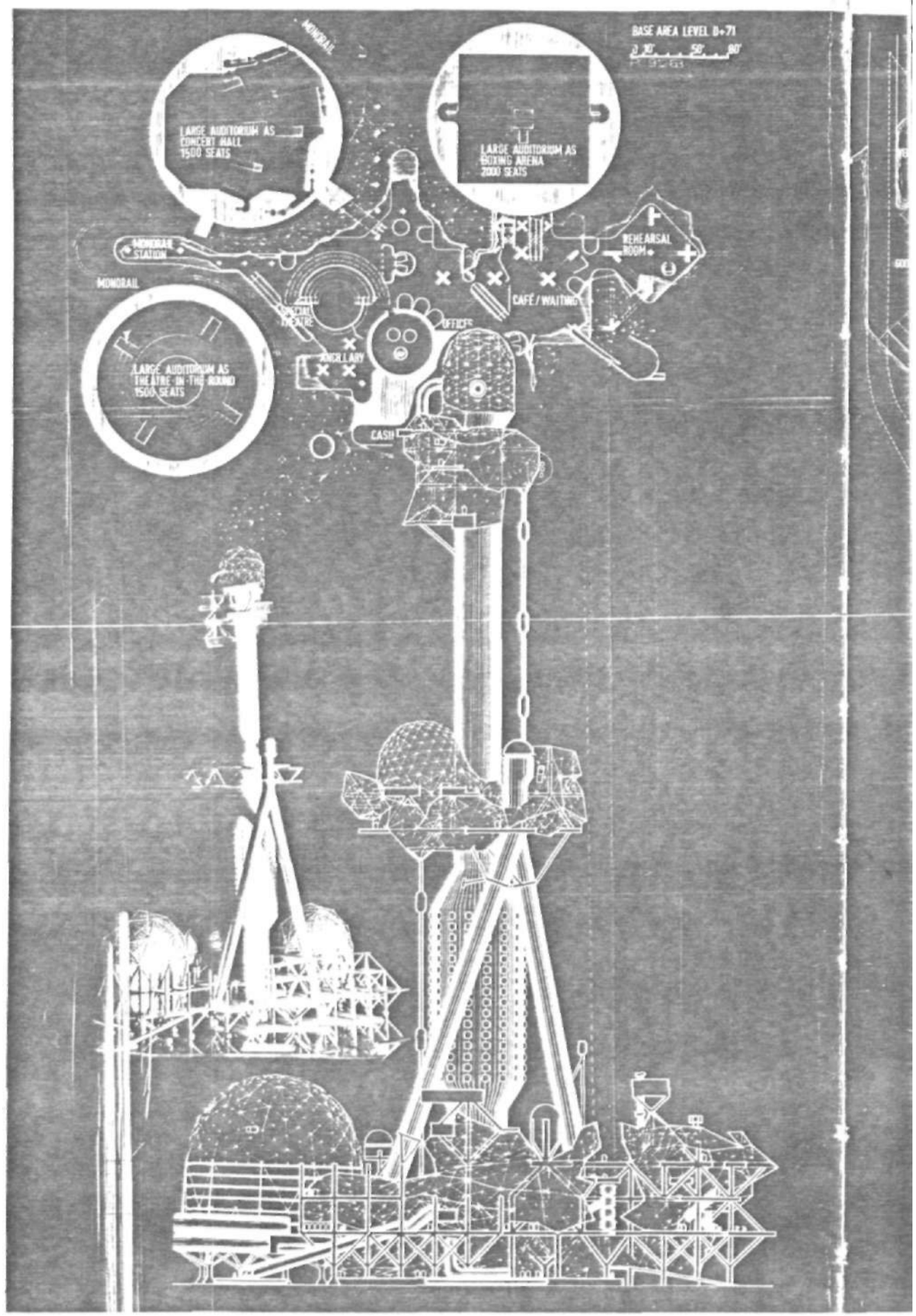


Rzut przyziemia
1 – dojazd
2 – wejście
3 – wjazd dostawczy
4 – sale wystaw
5 – foyer sali kameralnej
6 – sala kameralna
7 – magazyny
8 – sala prób
9 – foyer teatru
10 – sala teatralna
11 – scena teatralna
12 – pomieszczenia administracji
13 – garderoby
14 – pomieszczenia biurowe
15 – magazyn dekoracji
16 – podscenie
17 – sala prób
18 – restauracja
(wg DBZ 1/74)

:real Tower
Cook

ontreal Tower was a project
ssioned by Taylor Wood-
nd executed at the Euston
It was presented to the
ers of the (then) forth-
Montreal Expo as a
feature'. It had to incor-
a central concrete tower
rovide a wide variety of
entertainment functions
ief was extended to form a
and 'guts' proposition: a
tree with enormous roots
which could be hung tem-
exhibition elements that
be removed and replaced
e Expo.

ways, the project served
al run for notions of struc-
nd component replacement
ere developed in the Plug-
. By comparison, the
e of the tower is closer
e lift tubes – though dia-
– still form a separate
te. A skin wraps around the
the temporary infill.



l Tower plans, elevation
ws of model 1963 Peter

CHAPTER VII

THEATRE ACOUSTICS

7.1 ACUSTICAL REQUIREMENTS IN AUDITORIUM DESIGN

An auditorium in addition to its basic aesthetic, functional, technical, artistic, and economical requirements, often has to cater adequately for good hearing conditions for the audience. Thus it is imperative that:

I) There should be adequate loudness in every part of the auditorium particularly the remote seats.

ii) The sound energy should be uniformly destributed (diffused) in the room.

(iii) Optimum reverberation characteristics should be provided in the auditorium.

iv) The room should be free of acoustical defects: echoes, long-delayed reflections, flutter echoes, sound concentrations, distortion, sound shadow , and room resonance.

v) Noises and vibrations which should interfere, with listening or performing should be excluded or reasonably reduced in every part of the room.

LOUDNESS.

a) audience should be close to the sound source.

b) Sound source should be elevated adequately to secure a free flow of direct sound waves.

c) The orchestra floor should be adequately ramped, or raked to ensure that sound waves get to the audience at grazing incidence. -The gradient should not exceed 1:8 along aisles for safety reaons.

d) Reflected sound beneficially reinforces the direct sound if the time delay between them is relatively short, i.e., a maximum of 30m. sec.

e) Avoid parallelism between opposite walls.

REVERBERATION.

Reverberation is the prolongation of sound as a result of successive reflections in an enclosed space after the source of sound has been turned off.

Reverberation Time (RT) is the time for the sound pressure level in a room to decrease 60 dB after the sound is stopped.

The control of RT is an important step in the acoustical design of auditoriums as various productions require different optimum Reverberation times.

Attention should be given to factors which directly affect RT as given in the relationship below:

$$RT = \frac{0.16V}{A + xV}$$

where

RT = reverberation time, sec.

V= Room volume, cum.

A= Total room absorption, sq-m sobins.

X= air absorption coefficient.

ROOM ACOUSTICAL DEFECTS

a) Echo: echo occurs if a minimum interval of 1/25 sec (for speech) to 1/10 sec (for music) elapses between the perception of the direct and reflected sounds originating from the same source.

b) Flutter Echo: consists of a rapid succession of noticeable small echoes, produced between parallel sound-reflective surfaces. Sound absorbing materials should be installed along the defect-producing reflective surfaces or such surfaces should be rendered diffusive.

c) Sound Concentrations: Caused by reflections from Concave surfaces. Such surfaces should be treated with sound absorbing materials.

d) Room Resonance: Occur when certain sounds within a narrow band of frequency tend to sound louder than other frequencies.

e) Sound shadows: noticeable under a balcony which protrudes too far into the air space of an auditorium. Such under-balconies with a depth exceeding twice the height, should be avoided, since they will

prevent the remote seats underneath from receiving an adequate amount of direct and reflected sounds, thus creating poor audibility.

f) Directionality of Sound Sources:

Usually, in a region free from reflecting surfaces, the intensity of emitted sound may be most pronounced in one direction. The radiation of high-frequency speech sounds is more pronounced along the longttudinal axis of the sound source, while the distribution of the medium and low frequencies is more uniform in all directions. This can be observed particularly in excessively wide auditoriums where the high-frequency components of speech are not as effeciently radiated to the side seats of the front rows as to the centre seats, resulting in a noticeable loss of inteligibility at these side seats.

OPEN AIR THEATRE

Listening conditions outdoors are usually poor due to:

a) the drop of sound energy when sound waves travel in the open air- Inverse square low.

b) the considerable sound absorption created by the audience and

c) the interfering noises originating from various other sources.

The Greeks and the Romans in attempting to solve those caustical problems of open air theatres; built steeply banked theatres which were semi-circular or circular to bring the audience close to the actors. In addition, the actors used large masks partly to exxagerate their facial expressions and partly to reinforce their vocal power. Electric sound systems today are good substitute for such masks.

To counter the excessive drop of sound energy in the open air, it is necessary to:

(a) Keep the maximum distance of seats to a reasonable minimum.

(b) Accomodate the maximum amount of reflective surfaces close to the sound source.

(c) elevate the plartform and seating area steeply banked; with increased rake towards the rear, to provide the maximum amount of direct sound to the audience.

(d) Back reflections converging upon the platform from the concentric benches, particularly noticeable with partially or totally unoccupied seating area, should be eliminated by the use of adequate absorption or diffusion of the incident sound waves.

(e) Nearby reflective surfaces of existing buildings should be carefully checked for echoes or harmful effects.

If audience capacity exceeds about 500, a high-quality sound amplification system should be installed. The audience should be unaware of its existence.

7.2 SOUND AMPLIFICARION.

In large auditoriums and outdoor theatres, a sound amplification system is nearly always necessary for adequate loudness.

Sound amplification systems are used:

a) To rainforce the sound level.

b) To provide amplified sound for overflow audiences.

c) To mimimize room reverberation.

d) To provide artificial reverberation to rooms which are too dead for satisfactory listening.

e) To produce sound effects.

f) To reduce the masking effect of an excessive background-noise.

These systems should be free from disturbing echoes or feedbalk. and create a sulficiently low room reverberation. The time delay between the arrival of the direct and amplified sound should not exceed 1/50 sec, which implies a maximum separation of 7 to 8m.

SYSTEMS:-

1) Centrally located system.

ii) distributed system.

iii) stereophonic system.

If distributed system is used, the delay between the arrival of the amplified sound and the direct sound should not exceed 65 msec.

7.3 ACOUSTICAL MATERIALS AND CONSTRUCTION.

Sound absorbing materials and constructions used in the acoustical design of auditoriums or for the sound control of noisy rooms can be

i) porous materials. ii) pamel or membrane absorbers. iii) cavity (or Helmholtz resonators).

They can be mounted on the room enclosures or suspended in the air as space absorbers.

POROUS MATERIALS: may be in the form of a) prefabricated acoustical units, b) acoustical platers and sprayed-on materials, c) acoustical (isolation) blankets.

PANEL or (Membrane) absorbers are materials installed on a solid backing but separated from it by an air space. It will vibrate when struck by sound waves. Panels of this sort are efficient low frequency absorbers.

Cavity or (Helmholtz) resonators Consist of an enclosed body of air confired within rigid walls and connected by a narrow opening to the surrounding space in which the sound wave travels.

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PART 3

THE SCHEME.

. DESIGN APPROACH

. CLIMATIC DATA (ON SAMARU-ZARIA).

. SITE ANALYSIS

. CONCEPTUALISATION.

CHAPTER 8.

8.1 DESIGN APPROACH:

For theatre to happen, one needs, the actor, the audience and the theatre house. Essentially, the theatre house is an opparatus for theatrical operations. The audience comes to the theatre to hear and see the show and sometimes to paticipate. The theatre patron comes to the show for relaxation. Relaxation we know means recuperation from daily pressures. The patron's primary aim in coming to the theatre is to seek diversion in the form of entertainment which is supposedly an antidote to boredom generated by repetitive and frequent tasks.

For complete and gratifying results, the individuals needs to go beyond the confines of the self and to free his creative powers, whether to conform with the dominant values of civilization or to challange them. To relax is the individuals choice and therefore to gain full benefit of play we must be totall uninhibited in its pursuit. Play should be an exercise of human freedom.

Today, the problem of poor theatre patronage has been, in my opiniom, chiefly because our theatre houses have not offered this much needed freedom. Most of them are completely boxed in enclosures which completely paralyses the individuals ability for self-expression. Theatre is a live art and should ingect new life into anybody who has been through a theatre experience. In Africa particularly, theatre should go beyound the confines of space and spread out into a limitless enviroment to

make adequate provisions for the active African audience Invariably, the present day architect should be advised to approach the design of a theatre design the way he would park design, where the individual is free to self-expression as an individual or as a member of a whole.

. The ultimate aim should be the provision of "UNCOMMITTED THEATRE SPACES".

8.2 CLIMATIC DATA ON SAMARU - ZARIA.

The main campus, Ahmadu Bello University, Zaria experiences the typicall Eeasonal Climate of Northern Nigeria. Located on a plateau at a height of about 685 metres and more than 650 kilometres from the sea. The location is on longitude 7^{o} 4'F, latitude 11^{o} 1'N.

Samaru is invaded by two distinct air masses, one from the north-dry and contineutal in origin, the Saharam air mass - and the other from over the Atlantic in the South - moist, cool and equational maritime in nature. The rainy seasons begin when the Intertropical Convergence zone (ITCZ) is consistently north of the area of precipitation (usually April).

Temperatures

Maximum air temperatures occure in February to June period, peaking in April at 35.7^{o}c. However, daily maximum air temperatures in excess of 40^{o}c are regularly recorded in march and April. Mean minimum air temperatures of 13.8°F and 13.9°F are recorded for December and January

respectively. Though actual daily temperatures frequently fall below 10°c from December to February.

Maximum mean monthly air temperature ranges occur in February (16.7°c) although diurnal temperature ranges are frequently much greater. Ranges of 20°c F were recorded for 7 and 5 days for January 1979 and 1980 respectively.

Humidity

Mean percentage Relative Humidity Levels of more than 70 are recorded for july to September as shown in the mean monthly percentage relative humidity figures for 0900 and 1500 6m7 readings for 1954 - 1980 in the given tables. Actual Am recordings of 100% R.H. are not uncommon for August and in August 1980 17AM recordings exceeded 80% R.H. minimum R.H. levels occu in December and January.

WINDS

Samaru has Two dominant winds, the dry northeasterly and the moist south westerly winds. During the November to February period the dry North Easterly winds frequantly carry considerable qûalities of dust (the Harmattan). Wind apeers rarely exceed 2mls and generally peak in February. The Harmattan has a very considerable nuissance value, both in terms of human comfort and physical effects. The south wesferlies are associated with the rainy season. These winds tend to preced storms and are generally strong but short-lived. Gusts exceeding 3mls occur, but mean speeds exceed 2.5mls in may.

Rain Fall

The first rain of the year falls as thunderstoms showers in march or April. The frequency of these showers increases in each successive month till August which is the wettest. Samaru has a rainy period of approximately 210 days (may to october) and a mean annual rain fall (1928 to 1980) of 1092.8mm.

The IAR estimate the 15yr. 1 day rainfall maximum to be in the order of 150mm.

CONCLUSIONS

For design purposes, the climate of the November to may period is the most taxing for Samaru. It is the period of greatest diurnal temperature range, highest and lowest actual temperatures, highest global vediation and sunshine hours and the period which suffers from the dust-laden Harmattan winds.

From may to October the major problems for designers are in alleviating the discofrt caused by the vary high percentage Relative Humidity levels.

8.3 SITE ANALYSIS.

The relief of the site is longitude 7^{o} 4'E, latitude 11^{o} 1'N ; and alitude 685 metres.

The site is an area designated "New campus area" across the kubani River sfom the old campus. The site is relatively flat taking off gently in a westward ward slope from the Kubani Reservoir which exerts the strongest influence on the microclimate of the area.

parametars of the Kubani; Lake:

eatchment area	=	575 sq. lem.
area of strong basiu	=	83.4 ha.
Storage capacity	=	2.6×10^{6} m^{3}.
Top water level	=	644.81m.
arest level	=	646.34m.

The upstream slope of the dam is protected against erosion by placing 300mm thick hand-laid r:p rap. The downstream slope is also covered with 300mm thick rip rap to protect it against any possible scowring by rain and wind.

The site beautiful unobstructed views all around : Towards the old campus area, to the Reservoir and t kufara hills.

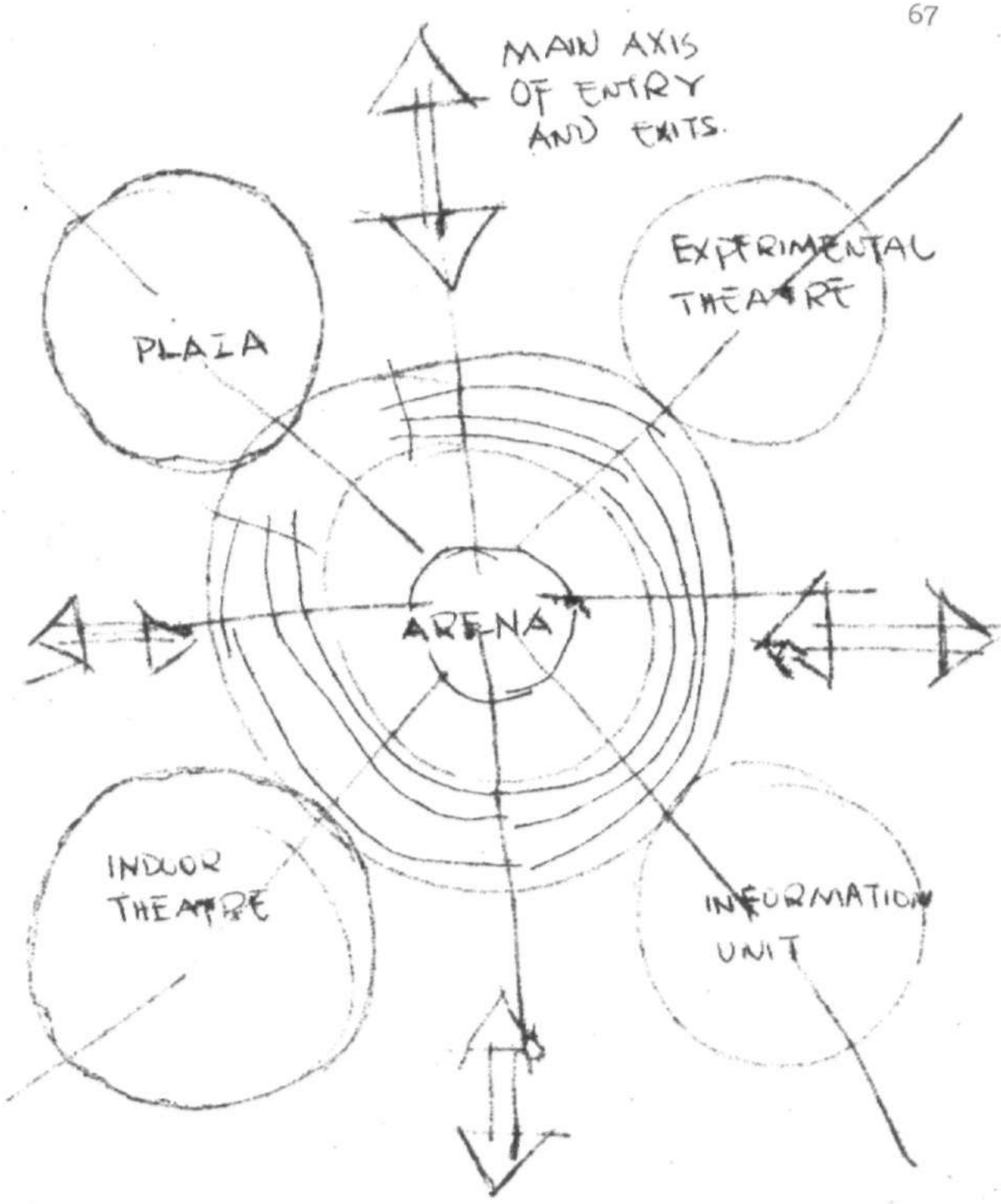
8.4 CONCEPTUALISATION:

The form employed in this scheme is the circle. This has arisen from the need for flexibility and 'free flowingness', and the circle bears a close semblance to the natural formation of most African festical performances. e.g. The Ikaki festival referred to earlier on in this dessertation.

The new synthesis of culture has new led to new theatrical requirements that ranges from closed to open spaces; few person performances to large person performances; small to large audiences. There is therefore a provision for this hierarchy of space requirements. From limited to limitless spaces. Invariably, from Indoor theatres to festival avenas to festival plazas flowing out with the green.

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FIRST CONCEPTUAL SKETCH.

A.B.U FESTIVAL COMPLEX.

SAMARU-ZARIA

This is not the first neither will it be the last attempt at solving the problems of the live theatre which, invariably, is universal and seemingly incurable. This, however, is a call to all lovers of theatre and to all those who are directly involved with the Theatre The architect, the playwright, the actor and the spectator, to put forces together and make the live theatre a more acceptable mode of entertainment to particularly the youth of today. This problem of the Theatre must be tackled from the two levels on which theatre makes its appeal-the intellectual and the aesthetics. The problem in Africa is a unique one as a synthesis of cultures is evolving a new kind of Theatre. There must be provision for the imported literate drama and the indigenous African festival, nothing short of this will be acceptable.

Stop.

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18. "Theatre Planning" by Roderick Han.
19. "Timer Saver Standards" by Joseph de chiara and John Hancock Callender.

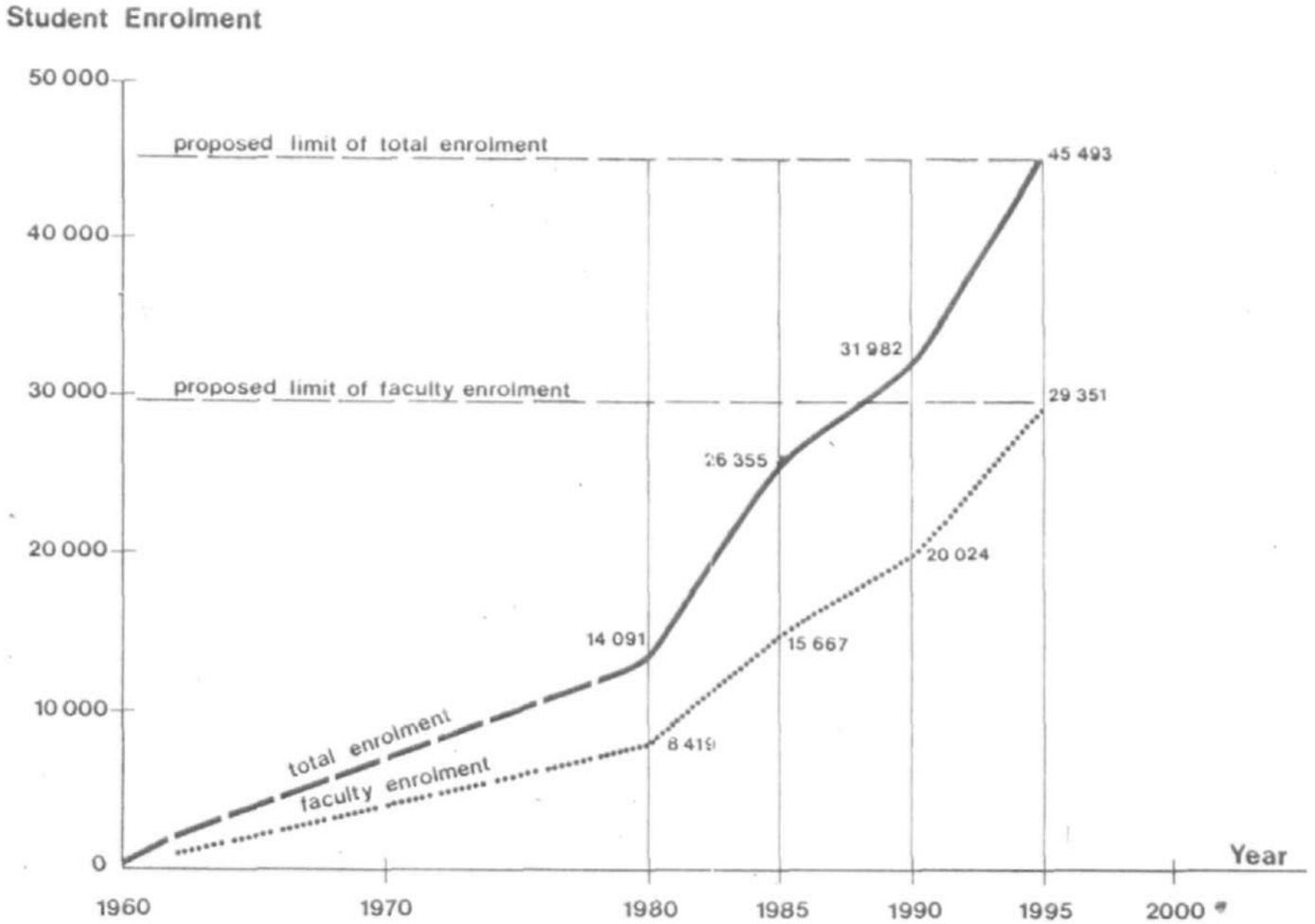
Table

SAMARU CAMPUS, DAY POPULATIONS, 1985 and 1990

	Category	Main Campus	Extension to the Main Campus	Agricultural Campus	New Campus Area	Hospital Campus	Other Areas	To
1985	Students	8 434	4 838	2 193	1 100	1 320	-	17
	School Pupils	1 500	-	1 000	-	-	-	2
	Senior Staff	1 159	472	826	128	120*	-	2
	I & J Staff	7 265	2 450	2 280	244	230*	-	12
	TOTAL	18 358	7 760	6 299	1 472	1 670*	-	35

	Category	Main Campus	Extension to the Main Campus	Agricultural Campus	New Campus Area	Hospital Campus	Other Areas	To
1990	Students	8 120	6 840	2 451	2 200	2 760	-	22
	School Pupils	1 500	-	2 000	-	-	-	3
	Senior Staff	1 280	618	867	210	186*	133	3
	I & J Staff	6 333	3 567	2 181	1 073	450*	230	13
	TOTAL	17 233	11 025	7 499	3 483	3 396*	363	44

* Excludes Institute of Health staff levels.



ENROLMENT GROWTH AND PROJECTIONS

Figure

Yusuf Mohammed and Associates in association with Dar Al Handasah Consultants (Shair and Partners)

Table 3.4

MEAN MONTHLY RAINFALL (MM) FOR 1980 and 1928-80 AND RAINDAYS PER MONTH, 1980 AND 1928-80

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Rainfall (mn) 1980	0	0	0	3.7	154.4	116.4	268.9	215.8	71.9	16.3	0	0
[illegible] (mn) 1928-80	0.2	0.9	7.1	36.2	121.1	161.6	225.7	280.4	221.4	37.0	1.2	0.1
Rain Days 1980	0	0	0	2.0	9.0	9.0	19.0	20.0	11.0	3.0	0	0
Rain Days 1928-80	0.1	0.2	0.9	3.9	10.0	12.8	16.4	20.2	16.3	4.0	0.2	0

(Source: Meteorological Observations, Samaru Station 1928-1980)

Table

AVERAGE MAXIMUM WIND SPEED BY MONTH 1979-80 AND PREVAILING WIND DIRECTIONS

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Wind Speeds	M/Sec	1.61	1.98	1.57	2.06	2.52	2.32	1.65	1.38	1.1	1.13	1.1	1.59
Wind direction:prevailing	1979/80	NE	NE	NE	SW	SW	SW	SW	SW	SW	SW	NE	NE
Wind direction:secondary				SW	NE						NE NW		

Table

MEAN MONTHLY MAXIMUM AND MINIMUM AIR TEMPERATURES AND MONTHLY MEAN RANGES: SAMARU 1938-80

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Maximum ^{o}C	30.3	32.7	35.3	35.7	32.9	36.7	28.4	27.7	29.3	31.4	31.6	30.3
Mean Monthly Minimum ^{o}C	13.9	16.0	19.5	21.7	21.2	19.9	19.5	19.3	19.1	17.7	15.4	13.8
Mean Monthly Range ^{o}C	16.4	16.7	15.8	14.0	11.7	10.8	8.9	8.4	10.2	13.7	16.2	16.5

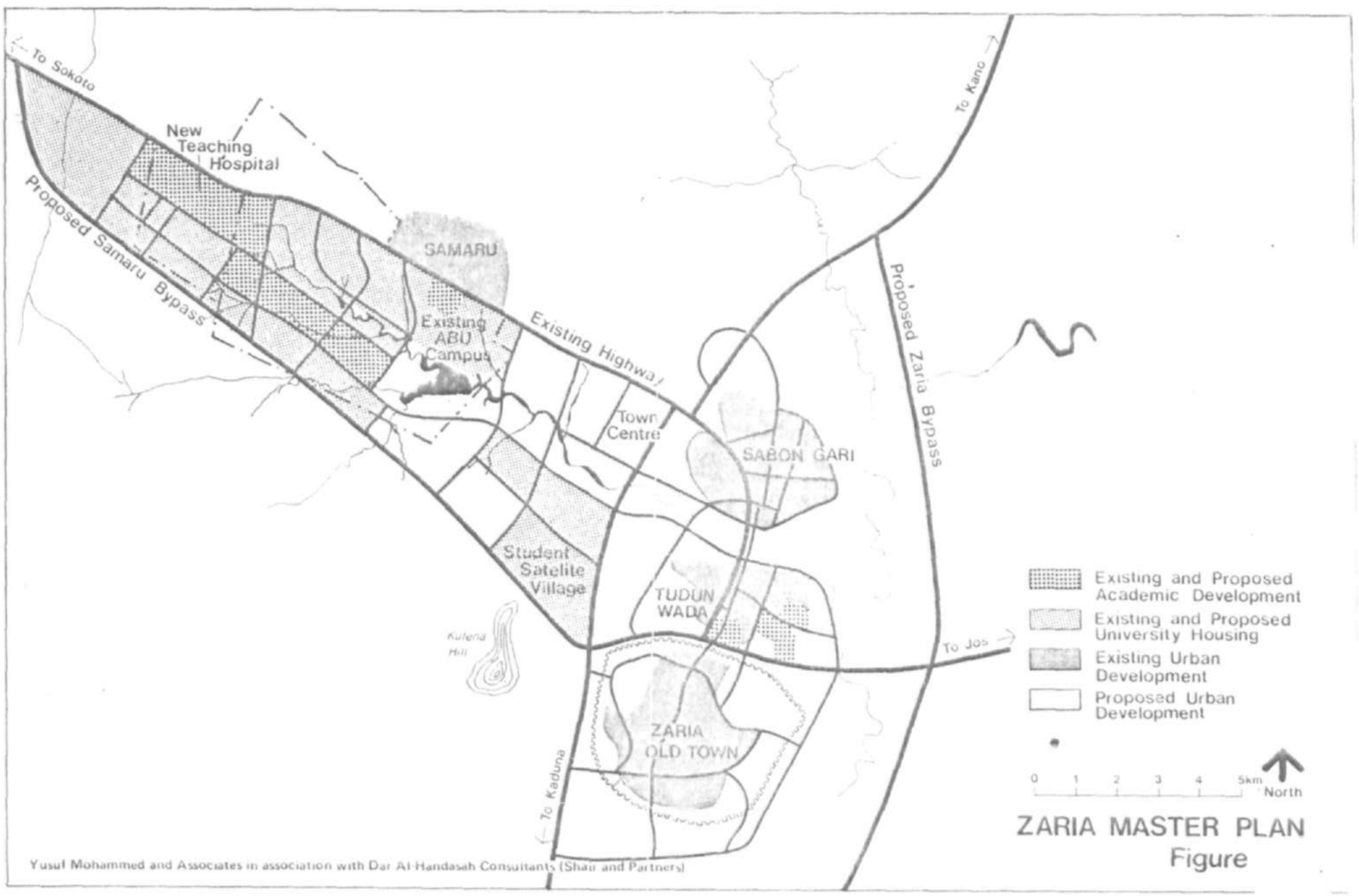
(Source: Meteorological Observations: Samaru Station 1938-80)

Table

MEAN MONTHLY PERCENTAGE RELATIVE HUMIDITY LEVELS, SAMARU, 1954-1980

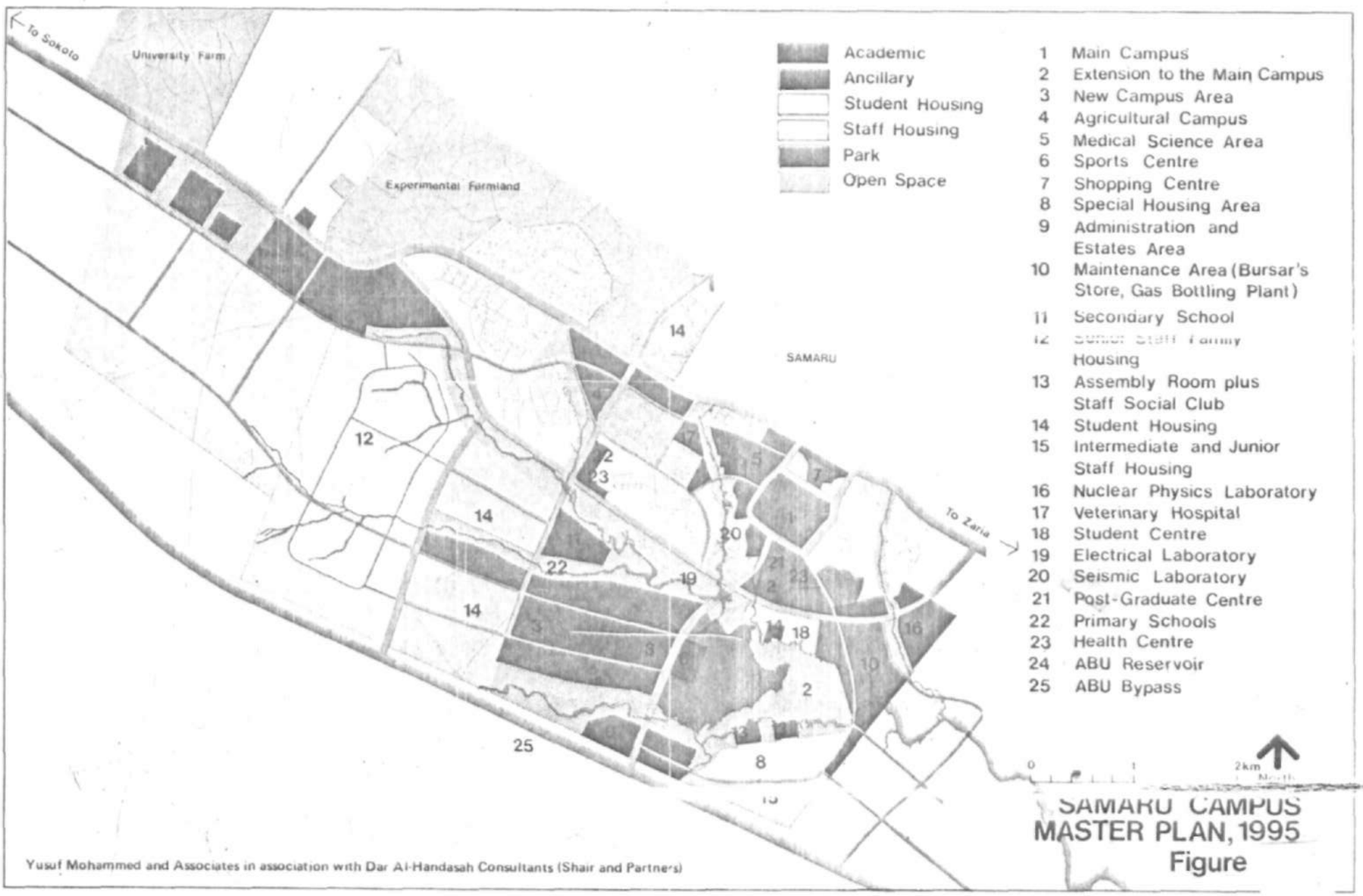
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AM		15.2	25.6	47.9	63.6	72.6	79.5	81.7	75.9	60.6	29.2	21.1
		10.8	14.2	29.0	43.4	57.3	66.2	69.7	62.9	43.1	21.4	16.4

(Source: Meteorological Observations, Samaru Station, 1954-1980)



ZARIA MASTER PLAN
Figure

Yusuf Mohammed and Associates in association with Dar Al-Handasah Consultants (Shair and Partners)

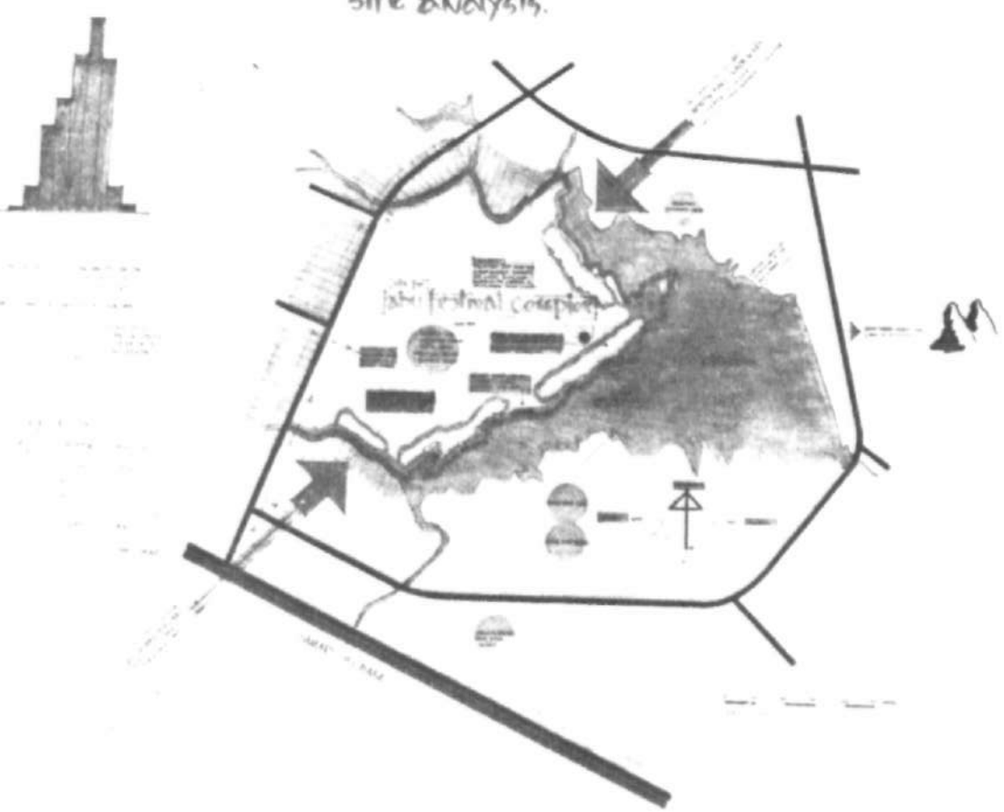


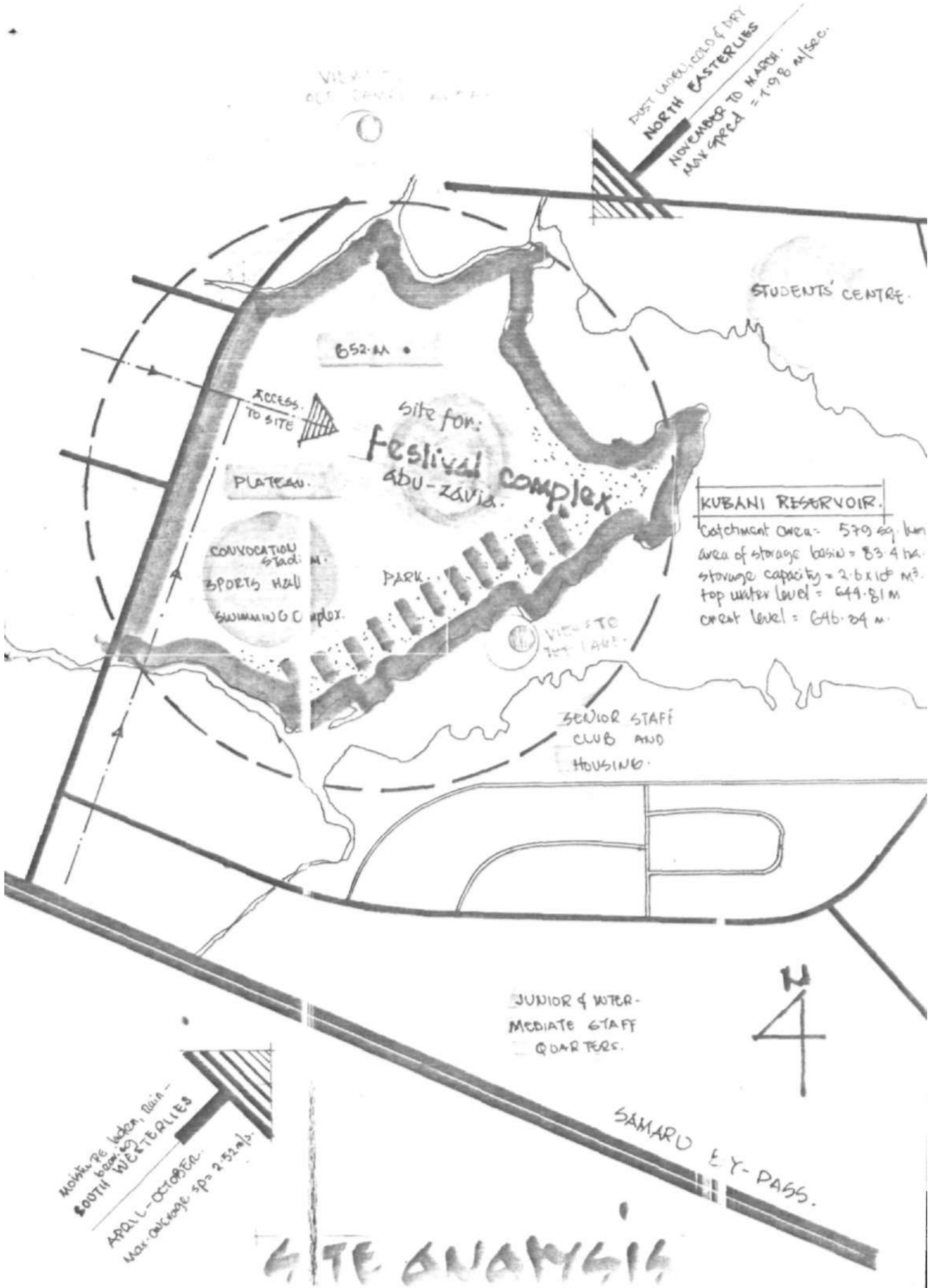
SAMARU CAMPUS MASTER PLAN, 1995

Figure

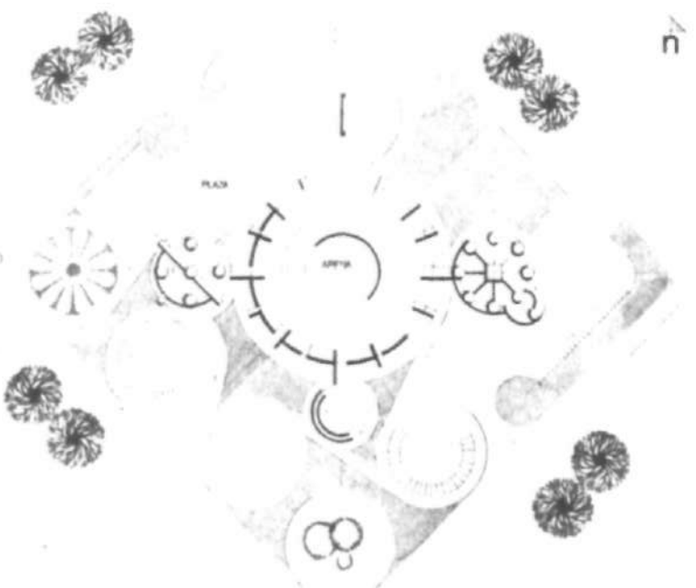
Yusuf Mohammed and Associates in association with Dar Al-Handasah Consultants (Shair and Partners)

site analysis.





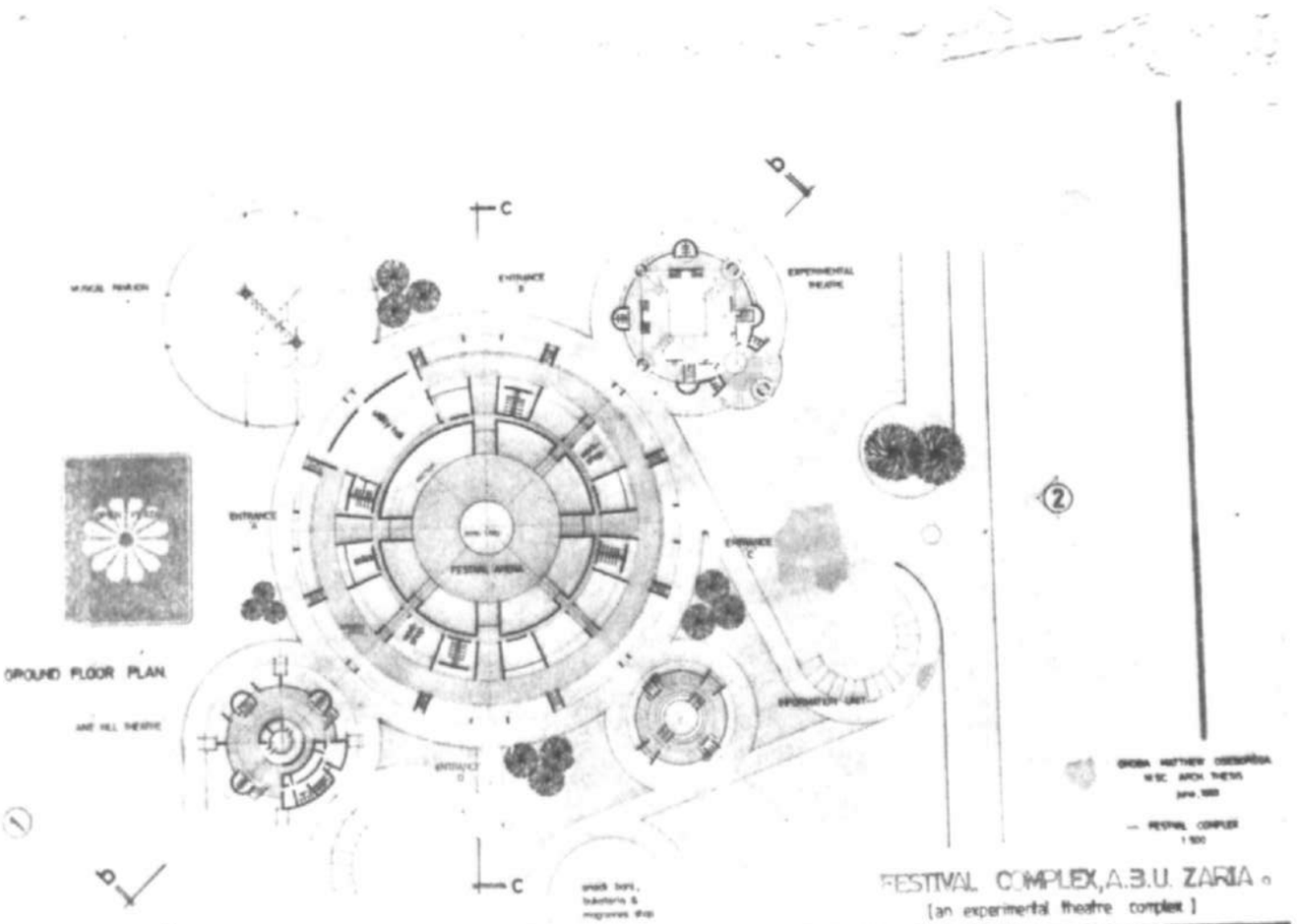
4. SITE ANALYSIS

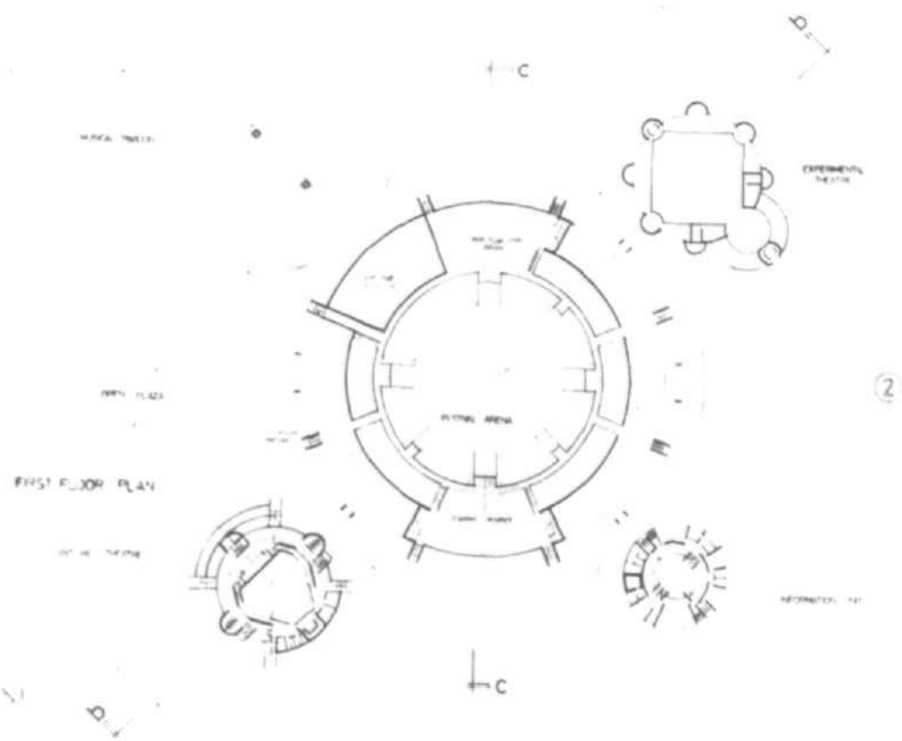


OKOBA MATTHEW OSEBORENA
M.SC ARCH THESIS
June, 1983

site plan 1:1000

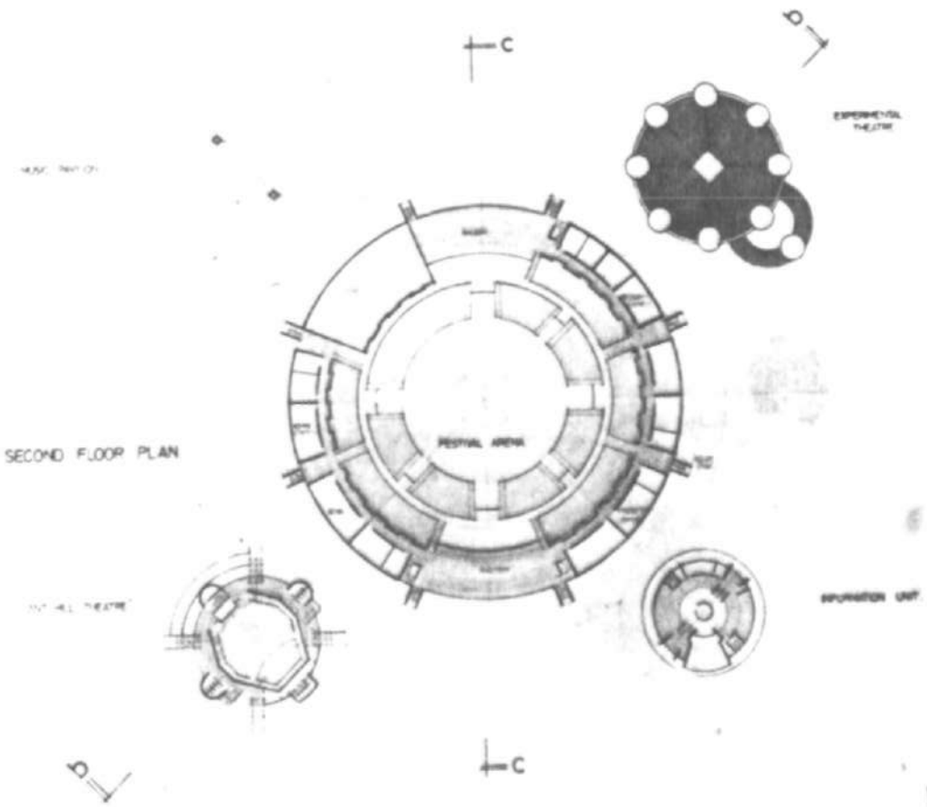
FESTIVAL COMPLEX, A.B.U. ZARIA.
(an experimental theatre complex)


C
C
ENTRANCE
EXPERIMENTAL THEATRE
ENTRANCE
ENTRANCE
ENTRANCE
FESTIVAL ARENA
EXPERIMENTAL UNIT
GROUND FLOOR PLAN
ARE HILL THEATRE
FESTIVAL COMPLEX, A.B.U. ZARIA.
[an experimental theatre complex]



FIRST FLOOR PLAN

[an experimental theatre complex]



SECOND FLOOR PLAN

FESTIVAL COMPLEX, A.B.U. ZARIA

[an experimental theatre complex]



section b-b



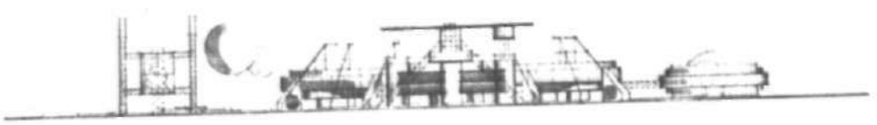
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CHIOMA MATTHEW OMEBORGA
M.SC. ARCH. THESIS
APRIL 1991

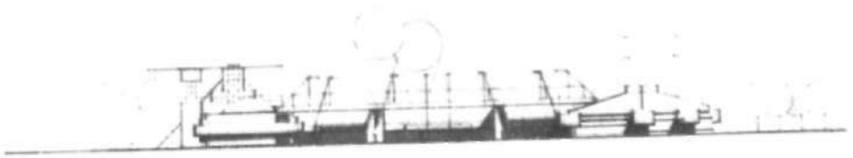
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1:500

... MALEX, A.B.U. ZARIA ...

[an experimental theatre complex]



elevation 1

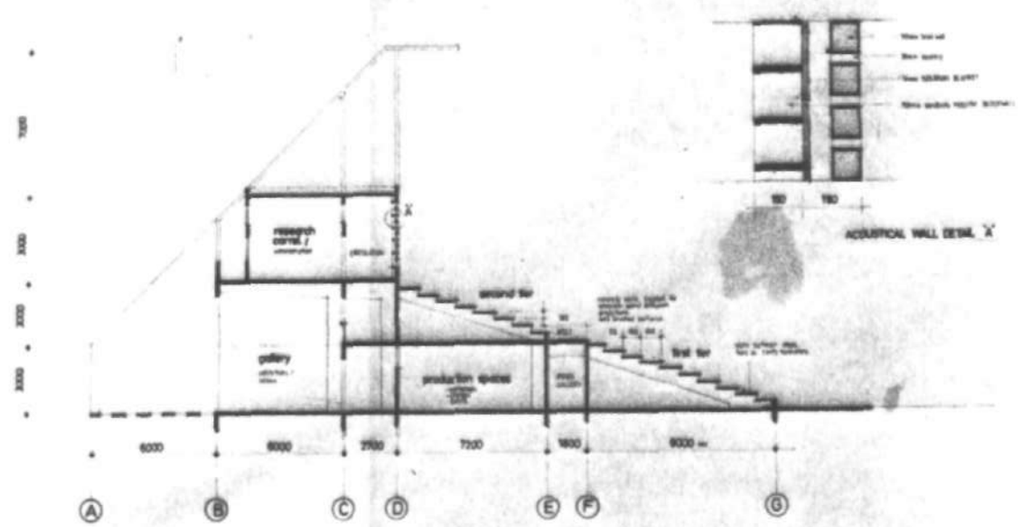


elevation 2

CHIOMA MATTHEW OKEKEREKA
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JUNE 1983

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FESTIVAL COMPLEX, A.B.U. ZARIA
[an experimental theatre complex]

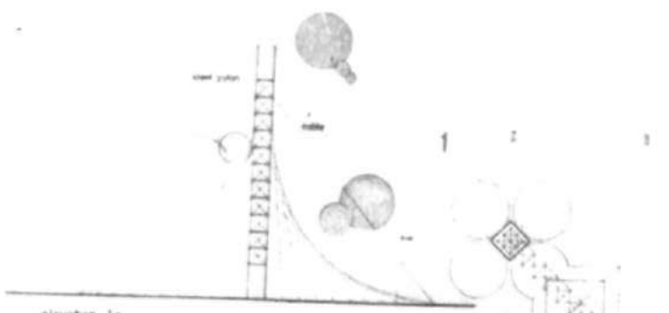


OKOBA MATTHEW OSEBOPEDA
M.SC. ARCH. THESIS
June, 1983

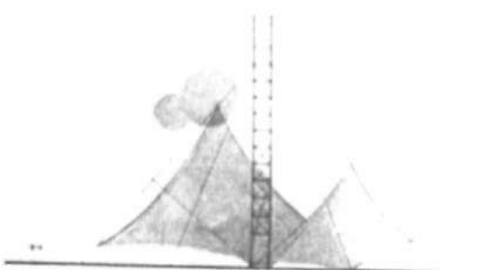
— FESTIVAL ARENA - SECTION
1:100

FESTIVAL COMPLEX, A.B.U. ZARIA.

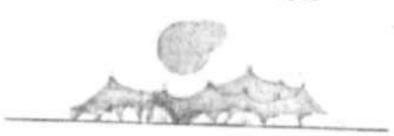
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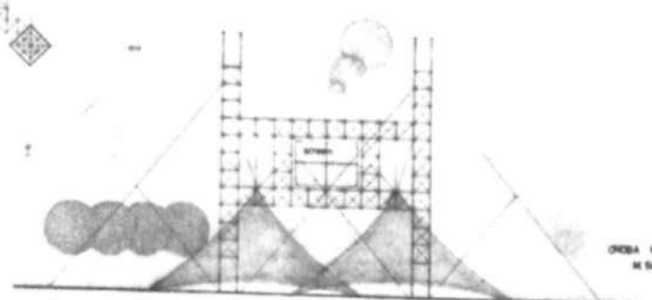
elevation 1a



elevation 1.b



PLAN

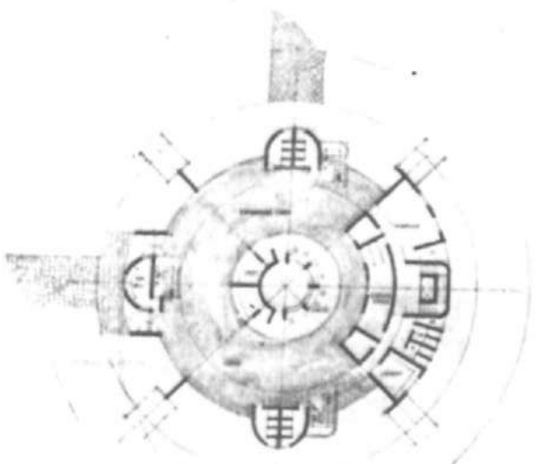


elevation 2

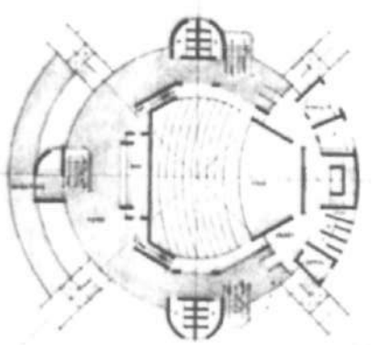
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M.SC ARCH THESIS
June, 1988

– MUSIC PAVILION
1:200

FESTIVAL COMPLEX, A.B.U. ZARIA.
[an experimental theatre complex]



GROUND FLOOR



STAGE FLOOR LEVEL

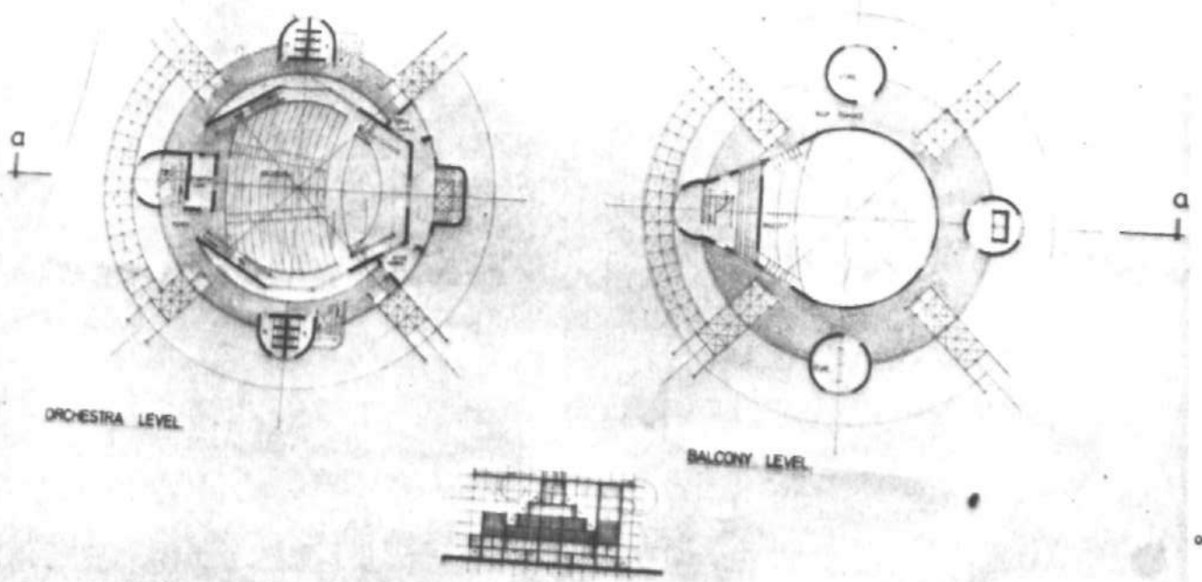


ORDIA MATTHEW OMEKWESO
M.SC. ARCH THESIS
JUNE 1981

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1:200

FESTIVAL COMPLEX, ABUJA

[an experimental theatre complex]



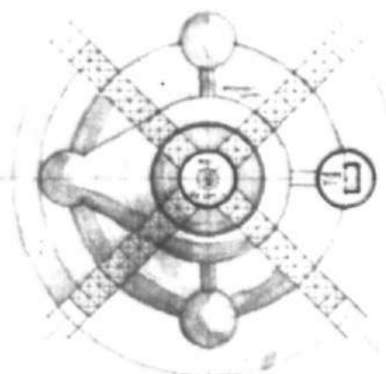
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M. SC. ARCH THESIS
APR. 1983

— AMI HILL THEATRE
1:200

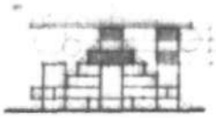
FESTIVAL COMPLEX, A.B.U. ZARIA.
(an experimental theatre complex.)



PRODUCTION SUPPORT LEVEL



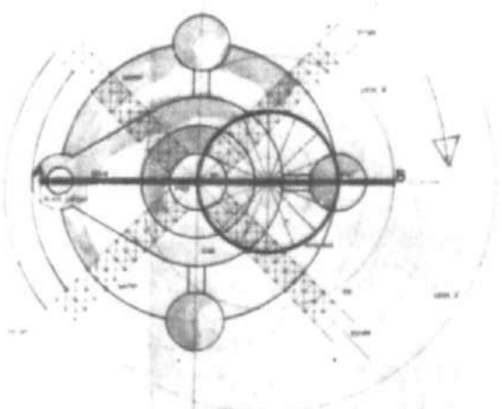
MECHANICAL LEVEL



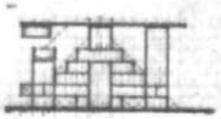
[illegible]
M.SC. ARCH. THESIS
[illegible]

[illegible] HILL THEATRE
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FESTIVAL COMPLEX, A.B.U. ZARIA
(an experimental theatre complex)



FLIGHT SIMULATOR LEVEL

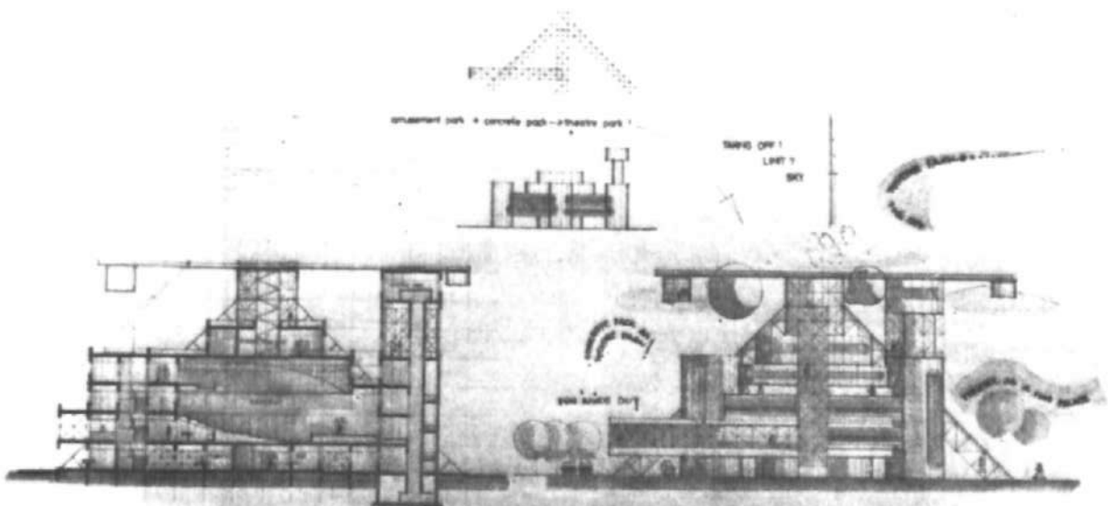


OKOBA MATTHEW OSEBORGA
M.SC ARCH THESIS
APRIL 1983

— 'ART HILL THEATRE'
1:200

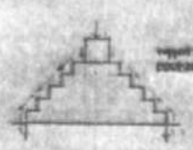
FESTIVAL COMPLEX, A.B.U. ZARIA.

[an experimental theatre complex]



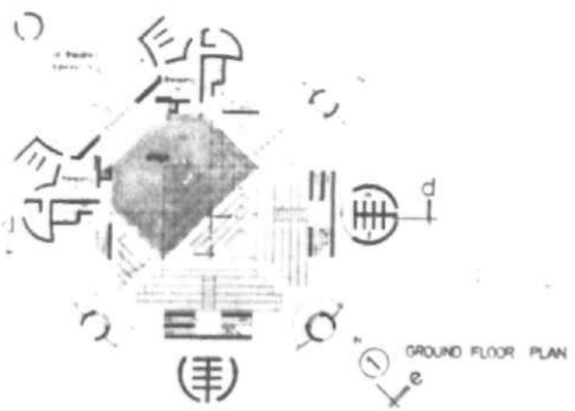
SECTION a-a

approach ELEVATION



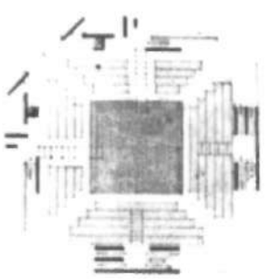
FESTIVAL COMPLEX, A.B.U. ZARIA

(an experimental theatre complex)



GROUND FLOOR PLAN

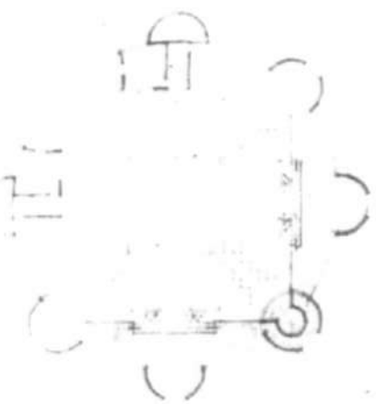
1 thrust stage mode



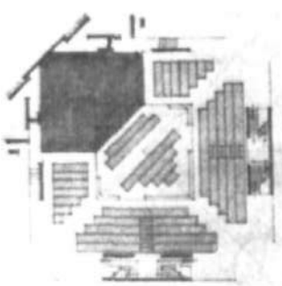
2 theatre in-the-round mode

— EXPERIMENTAL THEATRE PLANS

FESTIVAL COMPLEX, A.B.U. ZARIA.
[an experimental theatre complex.]



BALCONY LEVEL

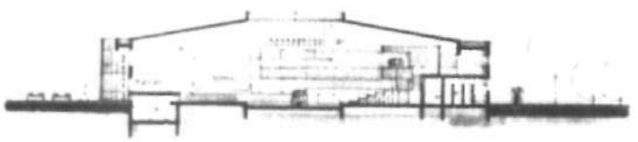


3. corner stage mode

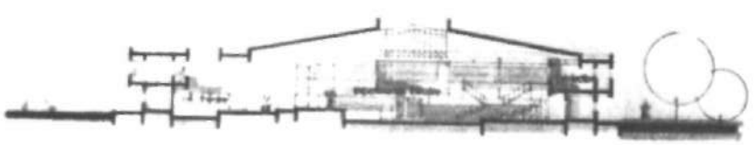
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FESTIVAL COMPLEX, A.B.U. ZARIA o
[an experimental theatre complex.]



section d-d



section e-e

— EXPERIMENTAL THEATRE. SECTIONS
1:200

FESTIVAL COMPLEX, A.B.U. ZARIA.
(an experimental theatre complex.)



elevation 1

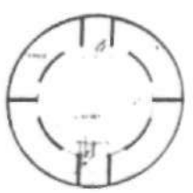


elevation 2

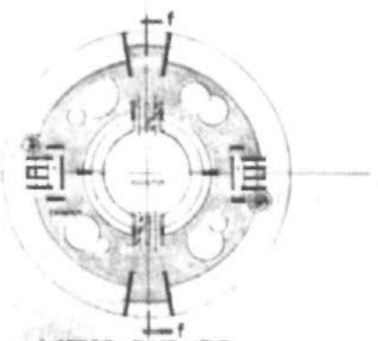
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FESTIVAL COMPLEX, A.B.U. ZARIA.

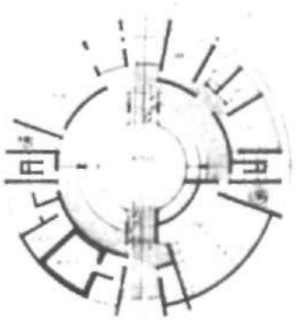
(an experimental theatre complex)



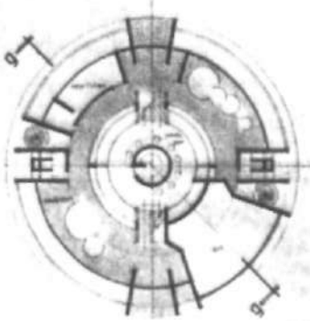
1 BASEMENT LEVEL



2. GROUND FLOOR LEVEL

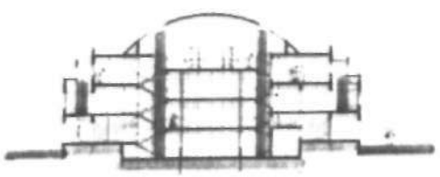


3 FIRST FLOOR LEVEL

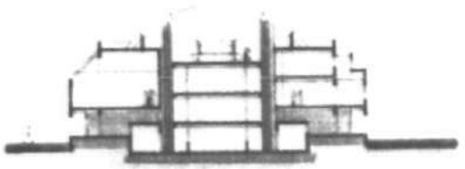


4 SECOND FLOOR LEVEL

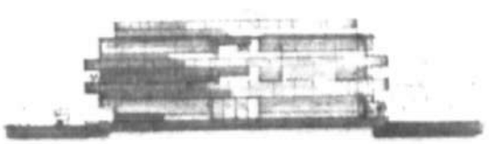
FESTIVAL COMPLEX, A.B.U. ZARIA.
[an experimental theatre complex.]



section f.f



section g.g



elevation

ONOBA MATTHEW OKEKPEYA
M.SC ARCH THESIS
June, 1988

— INFORMATION SECTIONS/ELEVATION
1:200

FESTIVAL COMPLEX, A.B.U. ZARIA.

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